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CONTENTS

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J. R. MOHLER, Editor, Washington, D. C.

Vol. LXII, N. S. Vol. 15 October, 1922 No. 1

ST. LOUIS, A PRACTITIONER'S CONVENTION

AS PLANNED, the fifty-ninth annual meeting of the American Veterinary Medical Association, which was held at St. Louis, Mo., August 28 to September 1, 1922, was truly a convention for the entertainment and instruction of the private practioners of North America. The interest manifested in this convention is evidenced by the fact that there were members present from South America, from the Philippine Islands and from Canada, as well as from almost every State in the Union.

President A. T. Kinsley called the convention to order in the ballroom of the Planters Hotel promptly at 10 a. m., August 28. The invocation was made by Rev. Dr. William Crow, pastor of the Westminster Presbyterian Church of St. Louis. Hon. Henry W. Kiel, Mayor of St. Louis, officially welcomed the Association to the city and related many interesting experiences and spoke encouraging words as to the future of our profession. A happy and entertaining response to the Mayor's welcome was given by Dr. Tait Butler in his usual forceful manner. President Kinsley then presented an optimistic and well considered address, which was published in last month's JOURNAL.

In the afternoon the first business session was opened with a report of the Executive Board, followed by the election of

new members, reports of the various officers and of the different committees. In the evening Dr. Kinsley held the customary presidential reception in the ballrom of the hotel, following which dancing, interspersed with vocal selections by the Armour Quartet, was indulged in.

LITERARY PROGRAM

Tuesday morning was given up entirely to the meetings of the various sections of the Association, the Section on General Practice being without doubt the best attended of the three. As the papers of Drs. Conrad and Klein will appear in this number, further mention will not be made of their interesting contents. Dr. W. L. Boyd gave a very instructive lecture on the pathology of sterility and illustrated it with many slides showing the various lesions under discussion. Dr. J. G. Ferneyhough described the practicing veterinarian as "the pillar of the profession." He urged cooperation between practitioners and those holding public offices or college chairs in order to improve not only the profession but the individual himself. Veterinarians were also urged to go before the legislature of every State and obtain legislation that would prevent unqualified men from practicing as veterinarians. Drs. C. H. Honeywell and E. J. Frick also presented very instructive practical papers on necrotic enteritis of swine and the proflavine preparations in bovine practice, respectively.

The Section on Sanitary Science and Police was likewise well attended. The subject of "flu" in swine was presented by Dr. W. B. Niles in the absence of Dr. Marion Dorset and brought about some animated discussion in which Dr. Cahill and Dr. A. H. Quinn took a prominent part. This was followed by a paper on equine infectious anemia by Captain R. A. Kelser, which was illustrated with lantern slides. The subject was thoroughly discussed by Drs. C. E. Cotton, E. A. Watson and others. Dr. Cotton brought out the point that many cases of parasitism are often diagnosed as swamp fever and warned that a diagnosis should never be made without a postmortem examination. Dr. Watson called attention to the difficulty of controlling the disease since certain animals were known to be carriers of the infection for as long as ten years without showing any symptoms. The reading of a paper on the control of equine infectious anemia, by Captains Koon and Kelser of the

United States Army, was omitted, the members present voting to have the paper appear in the JOURNAL. Dr. J. G. Hardenbergh of the Mayo Clinic, Rochester, Minn., presented an excellent paper on the value of animal experimentation to veterinary medicine, which was well received. The paper on tuberculosis in its relation to the feeding and marketing of livestock, by Prof. H. R. Smith of Chicago, Ill., was a strong plea for tuberculosis eradication. The author pointed out that there was a very large amount of tuberculosis, especially among the hogs of this country, and stated that it would be profitable for the packers to pay a premium for hogs coming from areas in which the cattle were free from tuberculosis. He also referred to the fact that the American Institute of Meat Packers was working out a plan by which its members could pay a premium of 10 cents per hundred on hogs coming from such areas. Dr. J. W. Connaway of Columbia, Mo., spoke on "Facts and Interpretations Relating to Infectious Abortion in Cattle and Swine." The author enumerated all the important facts that are known about the disease and pointed out in a clear, concise manner their application for its control and eradication, favoring certain regulatory measures, based on serological tests. In the discussion of Dr. Connaway's paper in which Drs. Kiernan, Simms and W. E. Cotton took part, some of the important facts which had been presented were emphasized.

Much interest was manifested in the meetings of the Section on Education and Research, which were presided over by Dr. E. M. Pickens of College Park, Md., in the absence of Chairman Chamberlain. The first paper was illustrated by lantern slides and consisted of a preliminary report on the differentiation of the various organisms belonging to the hemorrhagic septicemia group, by Drs. C. P. Fitch and E. N. Nelson. The authors studied 28 strains of organisms belonging to this group isolated from several species of animals and found that there was little variation in their behavior toward the sugars, all falling into Group III of the Jones classification, but serologically they separated into distinct groups which bore no relation to the species of animals from which they were derived. Dr. W. E. Cotton of Bethesda, Md., read a paper on the character and possible significance of the Bang abortion bacillus that attacks swine. He pointed out that this bacillus causes distinctly different lesions in guinea-pigs than does the *Bacillus*

abortus which attacks cattle only, and that it is probably perpetuated through both swine and cattle. Although it is assumed that the Bang bacillus which attacks swine originated in cattle, the abortion bacilli commonly isolated from cattle have not been proved pathogenic for swine. The paper by Dr. R. R. Birch and Dr. J. W. Benner of Ithaca, N. Y., on investigations on the immunology of swine plague was read by Dr. Benner and illustrated by lantern slides. The investigations showed that while a certain amount of immunity could be produced by vaccination with *B. suisepticus*, the immunity was uncertain and the animals were apt to become stunted. Immune serum was found to be somewhat more efficient, but the chief reliance should be placed in the protection of the herd against predisposing causes. The foregoing papers were discussed by Drs. Connaway, Cahill, Eichhorn and Hadley.

Dr. V. A. Moore of Cornell presented an interesting paper on "The Veterinary Curriculum; Some Suggested Changes." The essayist emphasized the importance of a thorough preliminary education and pointed out certain desirable additions to the curriculum that would round it out and correlate it with agriculture, although it would be difficult to find room for them in a curriculum already crowded. He also directed attention to the need for more uniformity in veterinary courses, making it easily possible for a student who wished to specialize in given subjects to transfer to schools giving the best instruction in them. In the discussion Drs. White and Stange explained the combined agricultural and veterinary courses given at the Ohio State University and the Iowa State College, and Dr. Klein pointed out the desirability of placing all the basic scientific subjects in the first part of the course, leaving the latter part free for the applied sciences.

Dr. A. Eichhorn, who had just returned from Europe, gave an admirable report on the status and the future of the veterinary profession in various European countries, while Major Robert J. Foster gave an instructive explanation of the Veterinary Reserve Corps. Dr. W. H. Welch, the newly elected President, read an entertaining paper on the present trend of veterinary practice, and Dr. Tait Butler discussed the relation of the veterinarian to the public. The most noteworthy address of the convention was that of former Assistant Secretary of Agriculture Ousley, which is referred to elsewhere.

Space will not permit abstracts of the many other excellent papers presented at the convention, but they will all be printed in the JOURNAL as they become available.

ELECTION OF OFFICERS

Tuesday afternon the convention again met in general session and proceeded with the interesting feature of electing officers for the coming year. Dr. W. H. Welch of Lexington, Ill., was unanimously selected as President. The following Vice-Presidents were next elected: First, Col. J. A. McKinnon, Director of the Army Veterinary Corps, Washington, D. C.; Second, Dr. J. H. Ferguson, Lake Geneva, Wis.; Third, Dr. M. C. Baker, Montreal, Quebec; Fourth, Dr. Geo. H. Hart, University of California, Berkeley, Calif.; Fifth, Dr. John H. McNeil, State Veterinarian, Trenton, N. J. Dr. M. Jacob, of Knoxville, Tenn., was unanimously re-elected as Treasurer, and Dr. Cassius Way of New York City was selected as member at large of the Executive Board. The positions of Secretary and of Editor and Business Manager of the JOURNAL were amalgamated and Dr. H. Preston Hoskins of Detroit, Mich., was selected for the combined position effective January 1, 1923.

ENTERTAINMENT

On Tuesday evening a number of banquets were held by alumni of the various veterinary colleges as well as by several other associations. Those who were not occupied otherwise were given an excellent evening of entertainment by the local committee at Forest Park Highlands, where dancing, swimming and similar pleasures were indulged in. Additional entertainment was furnished the wives and families of the delegates by shoping tours, a trip to the Observation Tower in the Railway Exchange Building, luncheon at the Hotel Statler, theater parties at the Capital Theater and the Orpheum Theater, luncheon at the Planters Hotel, and a boat ride on the Mississippi River in the steamer *Erastus Wells*. An interesting diversion was afforded the delegates themselves on Wednesday evening at the Planters Hotel in the form of a smoker and round-table conference, which was followed by a cabaret entertainment in which the Barbary Coast was temporarily transferred to the banks of the Mississippi.

WOMEN'S AUXILIARY

The Women's Auxiliary of the Association held its sixth annual meeting at the Planters Hotel, August 29. More than fifty ladies were present to enjoy the program. The meeting was opened with a prayer; the address of the President, Mrs. A. T. Kinsley, followed, after which the ladies were delightfully entertained with readings by Mrs. F. A. Lambert. Beginning July 1, 1922, the Auxiliary will loan each year $350 to a senior student in a recognized veterinary college. The 1922 loan was applied for early in the spring by a young man who easily fulfilled the necessary requirements, and the loan was made as soon as the funds were available. After placing this loan the treasurer's books showed a balance on hand of $335. Following the regular business meeting, the biennial election of auxiliary officers was held and the following newly elected officers were presented: President, Mrs. G. A. Johnson, Kansas City, Mo.; Vice-President, Mrs. R. P. Marsteller, College Station, Texas; Vice-President, Mrs. W. B. Aulgar, Paxton, Ill.; Secretary, Mrs. F. A. Lambert, Columbus, Ohio; Treasurer, Mrs. H. P. Hoskins, Detroit, Mich.

SECTION OFFICERS

On the completion of the literary program of the three sections of the Association, the following officers were elected:

Section on General Practice: H. E. Kingman, Chairman; Harry Caldwell, Secretary.

Section on Sanitary Science and Police: R. C. Reed, Chairman; Orlan Hall, Secretary.

Section on Education and Research: L. W. Goss, Chairman; E. M. Pickens, Secretary.

MONTREAL FOR NEXT MEETING

Invitations were extended to the convention to hold its next meeting at Des Moines, Iowa; Omaha, Nebr.; New York City; Montreal, Canada, and several other points. The Canadian members in attendance presented strong reasons for holding the 1923 conference in Montreal and in consequence the Association voted its acceptance of the invitation so courteously extended by Drs. Fred Torrance, M. C. Baker and others. The exact time of the Montreal meeting has not been decided upon, but it is presumed that it will be held during the last half of August.

ATTENDANCE

The last figures available showed that 503 persons had registered, about 350 being members of the Association. Undoubtedly a much larger number would have availed themselves of the opportunities afforded by such an international convention had it not been for the acuteness of the railroad strike which, with its added risks of travel, deterred many from attending. Despite the drive which was inaugurated last year for increasing our membership, there were slightly less than 200 new members elected at St. Louis.

CLINICS

Probably the most outstanding feature of the convention was the interesting and diversified series of clinics which covered two full days. Those for large animals were held at the National Stock Yards at East St. Louis and were under the direction of Dr. H. E. Kingman of Fort Collins, Colo. Sterility work was demonstrated by Drs. DeVine, Bemis and Boyd, while the poultry demonstrations were conducted by Dr. B. F. Kaupp of Raleigh, N. C. The sheep clinic was in charge of Dr. I. E. Newsom of Fort Collins, and Dr. H. B. Raffensperger conducted demonstrations of parasites common to hogs and sheep. A demonstration of tuberculin testing was given by Dr. D. F. Luckey, and at the postmortem Dr. J. S. Jenison demonstrated tuberculous lesions in all but one of the slaughtered reactors. On Thursday the clinic consisted of surgical operations on the udder by Dr. G. H. Ferguson, operative treatment of laminitis by Dr. G. A. Roberts, diagnosis of swine diseases by Dr. J. W. Joss, and surgical operations on a number of horses and mules by Dr. L. A. Merillat.

While the clinic on large animals was being held at the Stock Yards, those interested in small-animal practice were entertained at the Planters Hotel by a series of interesting demonstrations on dogs and cats under the supervision of Dr. J. T. Flynn of Kansas City, Mo. Many of these animals suffering from common as well as unusual diseases were on exhibition for the benefit of the delegates. The subject of canine distemper was presented by Dr. W. E. Muldoon and brought forth an animated discussion. The growing importance of the X-ray in canine practice was brought out by Dr. G. P. Frost, while Dr. H. J. Milks discussed the diseases of the eye. Dr. W. G. Brooks

performed several abdominal operations, Dr. J. G. Hardenbergh gave a demonstration of administering anesthetics to small animals, while Dr. R. P. Marstellar discussed the diagnosis of mange, hookworms and other parasitic troubles of the dog.

After completing all unfinished business on Friday, this highly successful and entertaining convention was formally brought to a close with the appropriate installation of the various new officers of the Association.

DR. W. H. WELCH, NEW PRESIDENT OF THE A. V. M. A.

DR. WILLIAM HENRY WELCH, better known as Harry Welch, of Lexington, Illinois, was elected President of the American Veterinary Medical Association at its annual meeting held in St. Louis, Missouri, August 28 to September 1, 1922.

Dr. Welch is well known to the veterinary profession and the laity throughout the country as a progressive citizen, a breeder of fine horses, and a thoroughly qualified practitioner. He was born May 7, 1871, near Bloomington, Illinois. His education was finished at Illinois Wesleyan University, and the Chicago Veterinary College, from which he graduated with honors in the class of 1892. Immediately following his graduation he located at Lexington, Illinois, where he has practiced his profession continuously for the past thirty years.

In connection with the practice of veterinary medicine, he took up the breeding of Percheron horses, and his farm is the home of Apollon, considered by many as the greatest son of Besique. Although Dr. Welch is a very busy man, he holds in high regard his duties as a citizen, a churchman, and a member of the various organizations with which he is affiliated. He served as Secretary of the Illinois State Veterinary Medical Association from 1901 to 1906, and was honored by his colleagues with the Presidency of that Association in 1906. Under his able administration the State Association increased its membership from 70 to approximately 300 and became one of the largest State organizations of the kind in the country. During the four years that he has been Resident Secretary of the A. V. M. A. he has worked diligently to increase the membership in his State and his efforts have figured prominently in helping to place Illinois in the lead of all other States for two

DR. WILLIAM HENRY WELCH

years in the number of applications filed for membership in the national organization.

In addition to serving on the Board of Education of his home city for twelve years and as a member of the City Council for six years, he was elected Mayor of Lexington, Illinois, for two years. Dr. Welch is an active member of the Chamber of Commerce, Vice-President and "booster" of the local Chautauqua Association, a member of the board of trustees of his church, and is greatly interested in Boy Scout work. He is prominent in Masonic circles as a member of the consistory, Chapter and Council; he has held a commission as Grand Lecturer for six years, served as District Deputy Grand Master for two years, and enjoys the distinction of Past Worshipful Master of his lodge.

The A. V. M. A. is to be congratulated on selecting such a worthy representative citizen and able practitioner as its new President. His training and experience in the fields of veterinary medicine and business, together with his energy, integrity and ability fit him for the highest office in the national association, and he regards this as the greatest among all the honors that have come to him.

COLONEL OUSLEY'S ADDRESS

THE HIGH POINT in a program of outstanding excellence at the recent A. V. M. A. convention at St. Louis was the address by Hon. Clarence Ousley, former Assistant Secretary of Agriculture, on "The Veterinarian's Relation to Agriculture."

This paper, with its clear analysis of the situation, its breadth of view, its sound judgment and its literary excellence, was most cordially received and made a deep impression. It is sure to have a wholesome and potent influence in promoting closer cooperation between the veterinarian and the livestock owner and in aiding members of the profession to rise to the needs and opportunities of changing modern conditions.

The general appreciation of the convention found expression in the following motion which was passed by the Executive Board:

"That the Editor be instructed to reprint 5,000 copies of the Hon. Clarence Ousley's address, and that one copy be sent to the editors of the leading agricultural journals of the country and sufficient number be sent to the secretary of each State

and Provincial veterinary medical association and regulatory officials of each State and Province, with the understanding that it will be printed in the JOURNAL and announced that members can get copies on request. It is suggested to the Editor that the type be kept standing for sufficient time to provide for further reprints."

Accordingly Colonel Ousley's address, which appears as the leading article in this issue of the JOURNAL, will be reprinted in separate form and distributed as directed. Members of the Association may obtain copies on request.

TUBERCULOSIS ERADICATION STIMULATES DAIRYING

WHEN the work of freeing dairy herds from tuberculosis on a wide scale was undertaken several years ago, critics advanced the belief that the slaughter of tuberculous cattle would result in a milk famine and that publicity calling attention to the disease among dairy cows would hurt the dairy business.

The criticisms received careful consideration but were not permitted to interfere with the constructive program of tuberculin testing and freeing herds from the disease. The soundness of this policy is shown by the following figures: During the period July 1, 1917, to July 1, 1922, 175,000 tuberculous cows were destroyed. Instead of a milk shortage there has been a remarkable increase in both production and consumption of milk and dairy products. Last year, 1921, milk production in the United States aggregated nearly 99 billion pounds, a noteworthy gain over the previous year. Production of butterfat likewise increased. In 1921 alone, milk cows increased 341,000, which is a figure nearly twice as great as the slaughter of tuberculous cattle during the entire five-year period.

Several hundred towns have issued regulations requiring tuberculin testing, and apparently with inspired faith in the safety and value of milk as a food, people are using more of it than at any time in the past. Frequent instances are reported in which parents place liberal milk orders with owners of tuberculin-tested herds a considerable distance away, although they could obtain milk from untested herds much more conveniently and at a lower price. Thus, in spite of various objections to the free discussion of tuberculosis-eradication problems, the evidence shows that the benefits outweigh the doubts and fears.

PUBLICITY AIDED TUBERCULOSIS CAMPAIGN

WHEN extensive campaigns against tuberculosis of cattle were launched many persons interested in the dairy business predicted that giving publicity to such conditions would alarm the consumer and reduce the consumption of milk and dairy products. But instead of producing this result, the increasing efforts to improve the health of herds have inspired more faith in the safety and value of foods from the dairy cow. Hundreds of towns have made tuberculosis regulations to provide for clean herds and to make milk wholesome and publicity has been given to the various kinds of work being done by cities, counties, states, and the Department of Agriculture. As a result of this work to improve the health of the dairy cow, statistics show that the number of cows has increased and the consumption of milk is greater than ever before.

In recent months the most encouraging development in the work of eradicating this great cattle disease has been the number of counties that have made a complete clean-up of the herds on every farm. This area work is demonstrating that complete eradication is not a dream but a practical possibility. The expense will be paid by more efficient herds and better products.

HAIR TONIC

I hear that milk and garden greens have snappy things called vitamines that give us health and strength and pep and put the ginger in our step. But what is this I also hear from folks who ought to know, that vitamines will help to make our hair and whiskers grow? I find my Jove-like dome of thought of shade not quite bereft; I'll use this happy hunch and keep what herbage I have left. The razor makes a daily trip along my chin and jowls and lip, so by my wife it is not feared that I will ever raise a beard or whiskers a la Bolshevik; but Oh, I want my hair to stick. Upon my brain pan flies would crawl if I should sport no hair at all, and those that lit upon my head would have to wear a non-skid tread. They'd slip and slither on my scalp like mountain climbers on an Alp. To ward them off my hair I'll keep though I chew lettuce in my sleep. To nourish bristles on my brow I'll buy myself a mooley cow. If milk and vegetables clinch the thatch upon our beans, so help me Pete but I will eat a lot of spinach greens.—*Robert Adams, in The Cornell Countryman.*

THE VETERINARIAN'S RELATION TO AGRICULTURE [1]

By CLARENCE OUSLEY

Former Assistant Secretary of Agriculture, Fort Worth, Texas

EVERY HUMAN ACTIVITY, like every scientific process, depends for its success upon the recognition and observance of certain inexorable principles and unvarying rules of operation. While there are phenomenal or freak exceptions to the rules of human conduct, they consist for the most part of rare individuals and rare circumstances that mean nothing to the average man. And even these apparent exceptions are themselves subject to rules which escape ordinary observation. In fact, many failures in life arise from ignorance or disregard of repeated human experiences which form a body of science of human nature. Man is a part of nature and is subject to nature's laws—social laws as well as physical laws—and the penalty of disobedience is disaster or suffering. In these truths there is both comfort and warning—the assurance that if we are true to ourselves we will succeed to the limit of our capacity, and that if we are false we will ultimately fail of the attainment to which we are entitled.

No professional or commercial activity deserves success if its major motive is not the sense of service. The wholly selfish life is bestial. It can not be even truly honest, for its entire point of view is the animal instinct to get, to take, to seize, without giving adequate return, and that instinct knows no restraint except the fear of punishment.

On the other hand, no professional or commercial activity will win respect if it does not exact a fair reward for service rendered. The wholly altruistic life beggars both itself and those whom it would serve, because no man is entitled to give or to receive something for nothing.

Between these two extremes of utter selfishness and irrational benevolence lies the middle ground of successful and happy human relations. To render true service to agriculture and to receive adequate compensation is the formula of veterinary practice.

[1] Presented at the fifty-ninth annual meeting of the American Veterinary Medical Association, St. Louis, Mo., August 28 to September 1, 1922.

Every job is as big as the man who fills it is able and willing to make it. Barbers were the first surgeons, and surgery became a great profession because some barbers took the pains to enlarge their jobs. The first veterinarians were "hoss doctors," and the profession was improved by the endeavors of those who had the vision and industry to exalt their calling. The world always respects the man who knows what he professes to know, and honors the man who excels in the useful or acceptable task he undertakes. To grow a crop, to point a plow, to pitch a ball, to vaccinate a hog, to remove an appendix, to write a book, to preach a sermon—these are all worth while. The question is not whether one or the other is dignified or honorable, but whether the work is done well or ill.

Our present task is to find within this broad range and in accord with these proved rules of appraisal the relations of the veterinarian to agriculture.

In thinking of human ailments we think chiefly in terms of comfort and happiness. In thinking of animal diseases we think chiefly in terms of material values. Human life has its economic value, but it has such a large appeal of love and sympathy that we scarcely reckon the physician as an economic factor. Brute life, too, has its appeal of sympathy, but its economic value is so obvious that we reckon the veterinarian with colder calculation. We are prone to forget his great service to the human family in the prevention of the ravages of diseases that lurk in animal flesh—the anthrax, the typhus, the tuberculosis and the other fateful germs transmitted from animals to men by casual contact and through the consumption of meat and milk. A sense of gratitude for the restoration of a loved one to health may fatten the physician's fee; only the dollar saved will justify the veterinarian's charge.

Therefore, the first consideration is the quid pro quo of the service, and the farmer is famous for trying to get value received. The temptation is for the veterinarian, on the one hand, to scale his fee and to do something for profit "on the side"; and for the farmer, on the other hand, to do without the service and do his own doctoring. Here is the acid test of the veterinarian's professional stamina. Accordingly as he stands it or yields to expediency he starts on the road to professional dignity and success or to quackery and failure. Ultimately every

farmer whose business is worth having will respect the man who respects himself and his profession.

The great hindrance to veterinary success, of course, is ignorance. But I doubt whether more men doctor their animals than doctor themselves. At any rate, the only practical remedy is to contribute to popular understanding. To this end the veterinarian may well afford to make himself agreeable to farmers, and especially to put himself in the way of being invited to attend gatherings where it may be possible to discuss livestock problems. The veterinarian who does not know livestock in a practical as well as a scientific way is handicapped if not disqualified. "Love me, love my dog," is a manner of speech to signify the universal sympathy between those who know animals. It points the way of approach to the farmer's respect and patronage. A man who loves an animal, especially one who thinks he owns a good animal, is quite apt to think highly of another man who manifests an interest and exhibits some useful knowledge about the object of his affection. After all, a veterinarian is something of a missionary, and he is warranted in doing something more than sitting on his dignity and awaiting calls from an uninformed populace. Millions of animals are suffering or dying and millions of dollars are wasting for lack of his skill, and he is not to be excused for hiding his light under a bushel.

The old-time vet. used to hang out around the livery stable or the blacksmith shop, but these meeting places of the gossips and tobacco chewers have nearly disappeared, and the modern man of science must find other means of approach and usefulness.

There is a new order in agriculture. The agricultural college is more than half a century old. Two whole generations of scientific farmers are abroad in the land, and they know the value of science in every phase of animal husbandry. What is more important, there is a vast new organization of agricultural extension workers under the direction and maintenance of the Federal and State governments. This service is a part of the greatest Department of Agriculture in the world. It is a part of the agricultural college in each of the forty-eight States. These agricultural colleges are more and more becoming the leaders in veterinary education, and the Department of Agriculture and the agricultural colleges are charged with important functions of research and regulation in the livestock industry.

The Department and the colleges have done more than all agencies combined to develop veterinary science and to dignify the veterinary profession. Hence veterinary practice is intimately related by sympathy, by public policy and by self-interest with the whole great scheme of agricultural education. It is differentiated from the official organization by its independence, its self-reliance and its larger opportunities for personal gain.

Out of these relations arise possibilities of friction as well as advantage. The tendency of all officialdom is to extend its powers. Man is prone to exercise power. As individuals or as masses we all have conceit, and in excess of zeal or in sheer love of authority we are all given to aggrandizement or usurpation. This is the demonstration of history since time began—in government, in business, in industry, in religion, in every form of human activity. Out of this disposition have come all the tyrannies of the past, and the danger of tyranny is as great now as ever.

So it comes to pass here and there or now and then that the extension or regulatory official assumes to exercise more authority or to take more responsibility than the law contemplates or sound public policy advises. On the other hand, some veterinarians are prone to consider much of the public service rendered by Government agencies as an undue encroachment upon private rights and even to assume that veterinary science comprehends the whole field of animal husbandry.

To be more specific, there are numerous points of contact between the county agent, for example, and the veterinarian, which may become points of friction if great care is not exercised on both sides, just as there are such points between the regulatory forces of the State and the regulatory forces of the Nation, or between the regulatory and the extension forces of either. For that matter there are contacts of friction between the bureaus and divisions of the Department of Agriculture. All of which is to say that human nature remains human under the skin in spite of education. No rule can be framed in terms broad enough to cover all the cases that will arise in a situation so complex. The only universal formula is common sense, and even that is not fool-proof.

Generally speaking, the extension service is educational. It is charged with teaching agronomy, for example, but its workers are not to do the planting or the plowing for the farmer.

So it is the duty of the county agent to give instruction in methods of prevention of contagious and other animal diseases, and even to advise in matters of simple home treatment or to give first aid in emergencies; but he is not a veterinarian, or if so, it is highly improper for him to physic sick animals in order to save the farmer the expense of a veterinarian's fee.

Perhaps the most troublesome single point of friction between the county agent and the veterinarian is the vaccination of hogs against cholera. The treatment has become so widespread and its obvious processes appear so simple that even thoughtful men are apt to assume that anybody can do it safely. That is a fundamental error. Diagnosis is more important than treatment, and no layman is capable of correct diagnosis. Outward symptoms are undependable. Men of the deepest learning and broadest experience are oftentimes puzzled in determining the precise character of human and brute diseases in their varying and delicate manifestations, and laymen must beware lest they kill oftener than they cure. It would be quite as rational to permit laymen generally to vaccinate against smallpox. They may do it successfully nine times out of ten, and then kill somebody with blood poison. In like manner the county agent may successfully vaccinate a number of herds, but he is quite apt to be treating a few cases of worms, and he may spread hog cholera in the neighborhood. In a community without a capable veterinarian, as in a community without a physician, of course, the people must do the best they can. But the treatment of animal diseases is clearly the responsibility of the profession which is trained and licensed under the law for that purpose. A man has an "unalienable right" to let his animals die, provided he does not imperil the lives of his neighbor's animals; but no layman has a right in morals or in sound public policy to "practice" ignorance.

Happily the responsible officers of the Department of Agriculture and the colleges clearly recognize these relations, and we are coming more and more into a status of mutual respect and cooperation. It remains for the veterinary profession resolutely to maintain and to raise its standards of skill and ethics. In some States the legal requirements of skill and training are entirely too low. The educated veterinarian, like the educated physician, is discounted when the quack is licensed.

I have sometimes thought that the standards of medical ethics

are too exacting, but when I reflect upon what has been accomplished for professional dignity and for human happiness I revise my opinion and concede that perhaps the doctors know what is best for themselves and for the health of mankind. They can not be too highly commended for their large and unselfish activities in the prevention of human diseases. Their devoted state of mind in respect to the conservation of personal and community health is undoubtedly the product of rational and exalted ethics. The true scientist seeks and accepts the truth at whatever cost, and the physicians of the world seem to have found the truth of ethical human relations and to be practicing it in a rather more scrupulous degree than most other classes of men.

The veterinary profession is well emulating the example of the older profession. The true veterinary scientist sees his largest duty, and in the best sense his largest self-interest, in the prevention of animal diseases. Hence it falls upon veterinarians to take active leadership in all matters of community and local sanitation, of proper rationing, of wholesome feeding and of safe breeding. In this field there is opportunity for service and distinction second to none in the whole range of scientific development.

The veterinarian is the instrument of the conservation of animal values, and that makes him an economic factor of tremendous consequence. But most animals are food, and flesh is subject to subtle disease. Therefore, the veterinarian is also a conservator of human health. Thus in a large way the veterinarian is a vital part of the whole machinery of economic and social welfare. In a much larger way he is vital to the success of agriculture, and agriculture is the most important business of mankind. It is not only necessary to our subsistence, but at this particular time its prosperity should be viewed as a grave public concern. In our economic structure and commercial practice the farmer rates entirely too low in the distribution of the rewards of labor. The man who feeds and clothes the world should have more of the aggregate income and accumulation of the world. This is not only a matter of common justice, but it is a matter of social and political salvation. There is a deep sense of wrong among the producers of the land. It must be removed or there will be reaction. Economic injustice, like political oppression, sooner or later breeds revolt. It is appear-

ing already in sporadic outbreaks of anger and revenge taking form in rash adventures of legislation and in alliances of destructive class forces. It is essential to the social and political welfare that agriculture become more profitable. The most important single item of increased agricultural prosperity is profitable livestock on the farm. Hence in the most practical and potential manner conceivable veterinary science is to be reckoned as a powerful agency of the common weal, and the relation of the veterinarian to agriculture takes on an aspect of vast importance.

UNCLE SAM'S HEALTH ACTIVITIES

The United States Bureau of Animal Industry is described in a report recently issued by the National Health Council of Washington, D. C. This report outlines the history and development of the Bureau, its legal authority, organization, personnel, appropriations and cooperation with other agencies. The report is the eighth in a series concerning those activities of the U. S. Government which deal directly or indirectly with the public health. The previous reports of the Council include the Division of Vital Statistics of the U. S. Bureau of the Census, the Children's Bureau of the U. S. Department of Labor, the Women's Bureau of the U. S. Department of Labor, the Government Health Activities (with a chart), the Division of School Hygiene of the U. S. Bureau of Education, the Health Section of the Bureau of Indian Affairs of the Department of Interior, the Division of Welfare of the U. S. Post Office Department, and the Health Activities of the Bureau of Mines. It is planned in the near future to combine all of these reports in a single printed pamphlet, thus offering for the first time correlated, accurate and impartial data concerning the public health work of the Government. The National Health Council is a confederation of the fourteen leading national voluntary health organizations of the country, and has offices in New York and Washington. Copies of the Bureau of Animal Industry Report or of any of the others may be obtained without charge from James A. Tobey, Washington Representative of the National Health Council, 17th and D Streets N. W., Washington, D. C.

THE VETERINARIAN IN HIS RELATIONS TO THE PUBLIC [1]

By TAIT BUTLER

Editor, The Progressive Farmer, Memphis, Tennessee

MY THESIS is that the veterinarian or any other specialist or professional man is judged or appraised by the public by other than veterinary, scientific or professional standards; that his standing and influence in the community in which he lives are the results of his education and culture and his social, political and community activities, rather than the result of his veterinary or scientific knowledge or his professional activities. Hence the educated, cultured veterinarian of character, who takes an active part in the social, political and other activities of the community in which he lives, exerts a better and broader influence toward a higher evaluation of the veterinary profession and its usefulness than he can possibly exert through strictly professional activities, however profound his scientific knowledge or extensive his professional activities.

I, for instance, can not judge a lawyer by legal standards, because I know no adequate legal standard by which to judge him. Not knowing the law, I must judge of his ability in the law by some other standard with which I am familiar. Likewise the livestock owner and the general public do not measure the veterinarian by any veterinary yardstick. Opinions and confidences are formed as to the veterinarian, not only as to his general ability and character, but also as to his professional attainments, by other than veterinary or scientific standards. The livestock owner and the public can not judge the veterinarian by any veterinary standard, for having insufficient veterinary knowledge they have no such standard. They judge the veterinarian by how he measures up to their standards, which, as stated, are not veterinary standards. For instance, if my client is well informed on breeds and breeding, on feeds and feeding, and is a good judge of animal form and breed characters, he is more than likely to form an opinion of my knowledge of veterinary medicine by what he finds I know of breeding, feeding, etc. He may use this standard unconsciously, but he uses

[1] Presented at the fifty-ninth annual meeting of the American Veterinary Medical Association, St. Louis, Mo., August 28 to September 1, 1922.

it just the same, and his conclusions are likely to be accurate. It is a mistake to assume that he is not competent to judge the veterinarian because he knows little or nothing of the medical sciences.

There must be some common ground, some knowledge, interest or sympathy in common between the veterinarian and his client, and between the veterinarian and the public, before the veterinarian can establish confidence in his professional and scientific ability. Hence, while a thorough knowledge of the science and practice of veterinary medicine and close application to professional interests are essential to the prestige and influence of the profession, more will be done toward building up a confidence in and respect for the profession by the veterinarian of culture and character taking an active part in the social and the public activities of the community.

By a profound knowledge of the science and practice of veterinary medicine and by a close application to the practice of his profession a veterinarian may attain high standing among his professional colleagues and may obtain an extensive and lucrative practice, but he will do much less to establish in the public mind a high respect and confidence in the veterinary profession than the man who in addition to these necessary qualities possesses education and culture and freely participates in the public activities of his community.

For instance, men like Dalrymple and Cary in the South, although none will question their professional attainments, have done much more to advance the esteem and respect in which the profession is held, by their interest in, their knowledge of, and their helpful service for the development of the livestock interests of the South, than by their strictly professional activities.

In fact, I venture further, and with equal confidence, that the public estimate of the veterinary profession is not based chiefly on the professional service rendered by veterinarians. The evaluation of the veterinary profession by the general public is based chiefly on standards familiar to the general public. These standards are, of course, not veterinary, but the public's estimate of the profession is none the less likely to be fair and accurate.

Unless I can command the respect and confidence of my community by my knowledge of the things with which they are

familiar and by my interest in and service to the community activities in which they are interested, I can not inspire their confidence in my knowledge of veterinary medicine. And unless I can command their confidence in my honesty as a man I can not command their confidence in the honesty of my veterinary or professional service.

The veterinarian, the professional man or the specialist loses a potent influence for the advancement of his profession or specialty by the isolation in which he places himself. His technical language and conversation, his reluctance to give information in a language which the public can understand, his apparent effort to surround his work with a glamor of mystery, and his transparent fear of losing practice by imparting any of his sacred (?) knowledge, weaken his influence for the good of his profession, lessen his own influence for good in his community, and reduce the opportunities for great public service which he might render.

Recently I heard a veterinarian addressing a body of farmers on a subject of very great interest to them, but by the use of technical terms, in fact, by the use of a language which was absolutely foreign to his audience and which they could no more understand than if he had spoken in French. This veterinarian sacrificed the highest esteem of his audience, an opportunity to impart much useful information which would have resulted in tremendous good to his audience and been reflected back in his own greater usefulness, and also the higher esteem in which his profession would have been held.

I know of no one thing which more effectually holds the public at a distance and consequently lessens its respect and confidence in the professional man than his use of technical terms which it can not understand, in his private conversation, public utterances, and writings. For instance, I can not think of a whole sentence which would tell the man who knows more than the single word "periosteum"; but it tells the average person nothing, and he instinctively resents the use of such technical terms, whether or not he shows that resentment at the time.

Free, open frankness and ordinary common sense in discussing veterinary matters of interest to the individual client or the public, and the use of a language which is understood, will do more to increase the appreciation of the public for the services of the veterinary profession than any amount of the most

profound scientific wisdom couched in technical terms and shrouded in mystery by the use of what to the average man is an unknown tongue.

The veterinarian has reason for and sometimes complains of the kind and amount of publicity which his public services receive. To a large extent he has only himself and the habits, or shall I say traditions, of his profession to blame. It is not the so-called publicity which is put out that counts, but what is "put over." No matter how many columns may be published, unless the matter is such as the public will read, unless it is matter of public interest, unless it is put in a form which the public can understand and appreciate, it is not real publicity.

The veterinary profession owes it to itself and the public, whose influence, respect and confidence it should have, to do more writing, more speaking and more advertising; for no information it can give out, no increase in the public's knowledge of veterinary facts, will lessen its compensations, but will add immeasurably to its opportunities for a larger public service and greater personal remuneration.

My plea, therefore, is for a broader education or greater culture and a more thorough training in agriculture and in livestock husbandry.

The veterinarian will not obtain his greatest opportunities for service to the public and himself until he gives himself, as the basis for his technical and professional veterinary training, a thorough knowledge of the sciences underlying crop growing and animal husbandry. In other words, he must be more broadly educated than those he is to serve, at least to the extent of being familiar with their business and then adding his own specialty as professional training.

Only by a broader general culture which will enable him to render a better service in the social, political and other activities of good citizenship will he be able to meet the general public on ground where interests and sympathies are in common, and this is the only ground on which he can ever reach the general public. Only by a knowledge of livestock husbandry can he meet his clients on a common ground of interest and knowledge, and secure that respect and confidence which common interests and knowledge beget.

Rend asunder the shroud of mystery, in which ages have en-

veloped it; in its public utterances divest it of the technical language which has maintained it in isolation, and clothe it with a knowledge of and interest in matters of common interest, if you wish to exalt the veterinary profession to that high plane of public service of which it is capable.

The public does not and can not know the veterinary profession and its tremendous services to present-day civilization, because you will not let them. They can not come to your special field, and you have either refused to go or could not go to theirs, because of a lack of education, or a lack of an inclination and desire to do so.

ENGLISH RESEARCH ON RICKETS

Announcement has been received of highly important discoveries by the Medical Research Committee of England during an extensive study of rickets.

The report of the committee, based largely on the work of Dr. E. Mellanby, emphasizes that rickets is not due to a single cause but to a combination of unfavorable conditions as to food and surroundings.

Dr. Mellanby found as a result of feeding experiments with more than 200 puppies, that the following factors tend to prevent rickets: (1) plenty of calcium and phosphorus in the diet, (2) the anti-rachitic vitimin (found most abundantly in cod-liver oil), (3) meat, and (4) exercise. A lack of these factors, and an excess of bread or other cereal food or carbohydrates, were found to produce rickets. The presumption is, naturally, that these same factors are important in relation to human nutrition.

The The anti-rachitic vitamin was found to be much more effective if the diet contained the necessary amount of meat, and of calcium and phosphorus; and if exercise was allowed.

It is Mellanby's idea that an important factor in the effect of meat to prevent rickets is its well known and characteristic stimulating action, which increases the effectiveness of the vitamins present.

Dr. Alfred F. Hess, of New York, has shown that exposure to sunlight also is very effective as a curative measure in the treatment of this disease.

CLINICAL OBSERVATIONS ON CATARRHAL MASTITIS IN THE COW [1]

By LOUIS A. KLEIN

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THREE TYPES of mastitis may be observed in the cow: (1) Parenchymatous mastitis, which affects the glandular structure of the udder; (2) catarrhal mastitis, which involves primarily the mucous membrane of the large milk canals, milk cistern and teat canal, and (3) interstitial mastitis, which is an inflammation of the connective tissue situated between and around the glandular structures and the excretory channels. Every case of mastitis, however, can not be placed within one or the other of these divisions. Inflammation beginning in the parenchyma may extend downward to the milk canals, milk cistern or teat canal; catarrhal mastitis may invade the parenchyma; and either of these forms may involve the interstitial connective tissue secondarily, while primary interstitial mastitis may break into the parenchyma. Nevertheless, a knowledge of the characteristics of each of the three types is essential in diagnosis, prognosis and treatment.

Catarrhal mastitis occurs more frequently than either of the other forms in herds maintained under a system of intensive milk production. This frequency of incidence together with a tendency to run a subacute or chronic course and to terminate in atrophy and loss of function of the affected quarter makes the disease of considerable economic importance. Many good dairy cows have been sent to the butcher because catarrhal mastitis has rendered them unsuitable for milk production, and a large proportion of the three-teated cows in our dairy herds owe their present condition to this disease.

The successful treatment of catarrhal mastitis depends very largely upon its early recognition and the prompt application of suitable curative measures, but as the first symptoms are usually slight and insignificant the prompt discovery of each case as it appears can be assured only by keeping the herd under close supervision. The disease may occur at any time

[1] Presented at the fifty-ninth annual meeting of the American Veterinary Medical Association, St. Louis, Mo., August 28 to September 1, 1922.

during the lactation period, consequently the supervision of cows in milk must be continuous.

SYMPTOMS, COURSE AND PATHOLOGY

In two-thirds of the cases of catarrhal mastitis there is no swelling of the udder apparent at the beginning of the disease, and the other third shows only slight swelling, with little heat and not much pain. Generally only one-quarter of the udder is affected.

On of the first symptoms observed is the presence of small white flakes in the first few streams of milk from the affected quarter. These flakes are often quite small, frequently no larger than a pin head, and may not be very numerous. Unless the milk is drawn into the palm of the hand or on a finely meshed wire strainer and closely examined, they will not be noticed. In ordinary milking they are almost certain to escape detection. Milk from a quarter which is not diseased may show a flake or two now and then, but this does not happen often and does not occur at successive milkings.

Another early symptom is difficulty in expressing the first stream or two of milk. It is usually stated that the cow "milks hard," although formerly an "easy" or ordinary "milker." Sometimes it is reported that the cow kicks when milking is begun, whereas formerly it submitted quietly to the process. These symptoms are due to obstruction of the teat canal resulting from swelling of the mucous membrane or collection of exudate. The stream of milk expressed from the teat may be split or deflected from the normal direction when particles of exudate collect and dry around the outlet of the teat canal. If the end of the teat is examined in such cases before milk is expressed, small yellow crusts will be seen around the orifice of the teat canal. Sometimes, however, dried crusts of milk collect at the same point and change the direction of the stream in a similar manner when no disease is present, probably because of fatigue of the sphincter between the lower end of the milk cistern and the upper end of the teat canal. Splitting or deflection of the first few streams of milk, in the absence of any other changes, is therefore not necessarily an indication of the presence of catarrhal mastitis. Another of the early symptoms is that the stream of milk is not cut off completely when pressure is removed from the teat, with the result that

the end of the teat is smeared with milk. This is caused by the mucous membrane being swollen and interfering with the closing of the sphincter. In the early stages of the disease, a drop of mucus or pus may be squeezed out of the teat canal by pressure on the end of the teat.

While catarrhal mastitis is primarily an inflammation of the mucous membrane of the large milk canals, milk cistern, and teat canal, the inflammation, if not checked, extends into the submucous connective tissue, producing proliferative changes. In this way the mucous membrane of the milk cistern becomes thickened and may then be felt as a hard cord about as thick as a lead pencil running through the middle of the teat when the teat is rolled between the thumb and fingers. Flat disc-shaped thickenings and nodular indurations may be felt in the upper limits of the milk cistern around the terminations of the large milk canals. Growths appear upon the wall of the milk cistern and teat canal as a result of hyperplasia of the epithelium and may be detected by palpation. These often interfere with the withdrawal of the milk. This particular condition is known in some dairy sections as "spider in the teat." The proliferative process, when once started in the submucous connective tissue, may extend upward into the interstitial connective tissue of the glandular part of the udder, producing indurated areas of greater or less extent, and the newly formed connective tissue, subsequently contracting, causes atrophy of the gland cells with permanent loss of function in the area affected. The entire quarter may be involved, in which case the cow becomes a three-teater.

Catarrhal mastitis does not affect the secreting cells of the udder, and therefore the milk does not show any marked changes, at least not in the first stages of the disease. It has been mentioned that the appearance of small white flakes in the milk is one of the first indications of catarrhal mastitis. These flakes are usually present in the first few streams from the teat of the affected quarter, but sometimes they appear in the middle or at the end of the milking. But to the casual observer, the secretion at this time has the general appearance of normal milk and throughout the entire course of mild cases may not show any marked change. As the disease progresses, however, the careful observer will detect clumps of mucus or pus, usually in the first few streams of milk, or the first expression may con-

sist entirely of pus followed by milk of normal appearance. The first few streams from the teat may gradually assume more and more the appearance of pus, but the secretion subsequently drawn from the udder will have the appearance of normal milk unless the disease extends upward into the secreting structures, and then a turbid fluid resembling whey, or a fluid resembling serum, containing clots of fibrin and clumps of pus, will be obtained from the affected quarter. In cases of severe mucous catarrh the secretion from the affected quarter becomes gradually more and more slimy and viscid and takes on a grayish tint. By carefully observing the changes in the secretion the extent and character of the disease may be judged, and these changes are also of assistance in making a prognosis. When the whey-like or serum-like fluid is present or the secretion contains much pus, the prognosis is unfavorable.

ETIOLOGY

Streptococci are nearly always found in the secretion from a quarter affected with catarrhal mastitis. Staphylococci are present sometimes, streptococci being absent, but in most cases streptococci are present. F. S. Jones (1)[1] has isolated both hemolytic and nonhemolytic streptococci from cases of mastitis. The hemolytic streptococci could be classified in two groups on the basis of their action on carbohydrates, 19 strains in one group and 10 in the other, but all strains except 3 were agglutinated by antiserum from a rabbit immunized with a single strain. On the same basis the nonhemolytic streptococci could also be divided into two groups, one containing 34 and the other 5 strains, while all the strains were agglutinated with an antiserum prepared from one typical strain.

On rare occasions the disease spreads rapidly through a herd, attacking one cow after another. This has occurred when the cows were in good physical condition, properly fed, and kept under good sanitary conditions, the infectious character in such instances being due apparently to a highly virulent strain of streptococci. But ordinarily, cases of the disease appear in a herd at irregular intervals, one case at a time or sometimes several at about the same time, cows standing in different parts of the stable and often those milked by different milkers being attacked.

[1] Figures in parentheses following authors' names refer to list of literature at end of paper.

Considering the opportunity for bacteria to be transferred from the udder of one cow to that of others by the hands of the milker, the manner in which cases of this disease ordinarily appear in a herd justifies the conclusion that other factors are concerned in addition to bacteria. On one occasion the appearance of an unusual number of cases of catarrhal mastitis in a large dairy herd was found to be due entirely to washing the udders with water and permitting them to be exposed in a wet condition to a wintry atmosphere (2). The water flowed down the surface of the udder and collected at the point where the teat and udder join, dropping thence to the ground. The skin at this point was found to be inflamed, swollen, and in many cases cracked. As the skin is here separated from the mucous membrane of the milk cistern by only the subcutaneous and submucous tissue, the inflammation in the skin could readily extend to the mucous membrane. No streptococci or staphylococci were present in the milk from the affected quarters, and when the plan was adopted of wiping the udder dry after washing no new cases appeared, while all the affected cows recovered except several of those first affected in which induration had begun, and these were sold for slaughter. There is no information as to what extent, if any, catarrhal mastitis is associated with the ordinary chapped and cracked teats which are more or less common in cold weather. The udder may be subjected to the effects of cold in other ways, as when the cow is compelled to lie upon a cement floor without sufficient bedding or is exposed to cold drafts.

In a number of instances which have come under observation the circumstances have pointed to overfeeding as a factor in causing catarrhal mastitis. In one herd a number of cows began to give milk containing flakes and the feces of some of them were quite soft. On inquiry it was learned that the ensilage had been used up about ten days before and then the feeding of new hay, put up about three weeks earlier, was begun. As the cows seemed to like the hay and gave more milk, the quantity fed was gradually increased until a number were scouring. About this time the "flaky" milk began to appear and some of the other early symptoms of catarrhal mastitis were present. The hay ration was changed to two parts of old hay and one part of the new, and new cases soon ceased to appear, while those already existing recovered and the feces of the cows which

were scouring became normal. On several occasions the appearance of a number of cases of catarrhal mastitis has been observed in a herd following a general increase in the amount of concentrates being fed. In one instance milk from the affected cows was examined but neither streptococci nor staphylococci were present. Certain cows have been under observation which developed catarrhal mastitis whenever their grain ration was increased beyond a certain limit.

These observations have led me to conclude that overfeeding and the effects of cold on the udder, but especially the former, play a very pronounced part in causing catarrhal mastitis, and that, while the bacteriology of the disease is important, these factors which appear to operate usually as accessory causes but which may cause the disease when operating independently must receive due consideration when treatment is prescribed.

Several cases have been observed in which one quarter was slightly swollen and firmer than normal but not hot or painful, while flakes and sometimes clumps of mucus were present in the milk from the affected quarter, and the herdsman has expressed the opinion that the quarter was not milked out thoroughly at the previous milking. The milker has denied the charge and it has not been possible to arrive at the facts. Hot water bathing followed by massage usually restores these cases to normal in 12 or 24 hours. Incomplete milking and delayed milking are believed to favor the development of catarrhal mastitis by those who have had extensive clinical experience with the disease, and the practice of delaying or omitting milking in order to "bag up" a cow which is to be exhibited or offered for sale is generally considered harmful.

TREATMENT

In general practice the treatment of catarrhal mastitis often fails to give satisfactory results. One of the principal reasons is that the veterinarian is not given an opportunity to apply treatment until the disease has made considerable progress. The best results can be obtained only when treatment is begun early and is based on proper consideration of all the etiological factors. But, unfortunately, the early symptoms are very slight or insignificant and under ordinary conditions most cases are likely to be overlooked until they have been under way several days. The first requirement, therefore, is some arrangement

which will place all milking cows in the herd under close observation for the initial symptoms. The treatment must be planned for the herd rather than for the individual cow. In herds operating under milk regulations requiring the fore-milk to be drawn into a special vessel and discarded, this close supervision is easily arranged for. It is only necessary to have the vessel in which the fore-milk is drawn covered with a finely meshed wire strainer and to instruct the man who draws the fore-milk to watch carefully for flakes or clumps and to report any cow immediately when flakes or clumps appear on the strainer, or when there is difficulty in drawing the milk, or when any of the other early symptoms of catarrhal mastitis are observed. At the same time such provision as is possible should be made to guard against overfeeding, exposure of the udder to cold, and careless milking. Overfeeding is avoided with greater difficulty than the other conditions because the herdsman is naturally ambitious to obtain a high production.

Upon the appearance of the first symptom of catarrhal mastitis the grain ration should be immediately withdrawn and the feeding of ensilage or any other succulent material stopped, the cow being fed only hay; timothy is better than clover or alfalfa. At the same time the cow should receive a full cathartic dose of Epsom salts to deplete the inflamed area, and this should be followed by a diuretic to keep up the depleting effect. Salicylate of soda is a good diuretic for this purpose, as it is eliminated in part in the milk in the form of salicylic acid, which exerts an antiseptic effect upon the interior of the udder. Several years ago, in a paper (3) read before this Association, I recommended the administration of hexamethylenamina, a formaldehyde preparation, in solution by the mouth for the purpose of disinfecting the udder, and subsequently Frost (4) suggested the use of formaldehyde solution or formalin. Desiring to increase the disinfectant action on the udder, and believing that the quantity of formaldehyde eliminated through the udder could not be increased very much by increasing the dose, I have endeavored to obtain a more powerful disinfectant action by administering salicylate of soda and boric acid in addition to the formaldehyde, boric acid also being partly eliminated through the udder. A half-ounce of sodium salicylate and 2 drams of boric acid [1] are given in solution in a quart of water

[1] These two drugs should be kept separate until they are dissolved in the water. If mixed together in the dry state they "cake" and form a more or less solid mass.

morning and night, and in the middle of the day a half ounce of formaldehyde solution in a quart of water is administered.

From the beginning the affected quarter should be milked out at short intervals—every hour or two if possible. This is an important part of the treatment. A portion of any antibodies which may be found in the blood will pass over into the milk, and these, together with the antiseptics eliminated in the milk, will exert an inhibitory or destructive action on bacteria present in the udder, while the passage of the milk through the milk channels will wash the exudate from the diseased mucous membrane and carry out bacteria and their products. All of the beneficial effects which may be derived from the injection of antiseptic solutions into the udder may be obtained by frequent milking without the irritant effects which such solutions have upon the tissues and without danger of infected material being carried up into the unaffected parts of the udder by the injection.

To obtain the best results this method of treatment should be made a part of the routine management of the herd and the veterinarian should supply the drugs in such form and with such directions as will insure their proper use in his absence. No cow should be put back into the milk line and placed on full feed, however, until the veterinarian has had an opportunity to examine the udder and to assure himself that resolution has occurred.

If induration appears, the affected part should be painted with a mixture of 2 parts of tincture of iodin and 5 parts of oil of turpentine two or three times a day until the skin becomes tender. This same treatment is also indicated when the catarrhal condition exhibits a tendency to persist. No local treatment is applied in the early stages of the disease unless the affected quarter is swollen, and then it is bathed in hot water for 20 to 30 minutes, rubbed dry and massaged with an ointment containing camphor, iodin or salicylic acid. This treatment is applied twice daily until the swelling subsides and the udder regains its normal consistency.

At the time of writing, 44 cases of catarrhal mastitis have been treated under the system described. Of these, 36, or over 81 per cent, recovered, one-half of them by the fourth day and all but two by the seventh day. One of these two recovered on the tenth and the other on the twelfth day. The other 8

cows included in the total number treated were sold for slaughter. One was under treatment for 16 days and one for 17 days, and these were sold because the disease of the udder was considered incurable, but of the other 6 cases 1 went to the butcher on the second day after being discovered and placed under treatment, 2 on the third day, 2 on the fourth day, and 1 on the fifth day. These 6 cows were sold because of age, poor productivity, or for some reason other than the disease in the udder.

After recovery has occurred the cow should be kept on the hay ration for at least two days and then should receive not over 2 pounds of grain a day for the first week, and after that a gradually increased quantity until on full feed. If the cow is put back into the milk line and fed to force milk production too soon the disease will recur.

I fully realize that the practitioner is called on to treat catarrhal mastitis under conditions which make the adoption of this system difficult or impossible, but the principles upon which it is based apply with equal force to the treatment of all cases of this disease, and they should therefore be given all the consideration that circumstances will permit. There are many dairy herds, however, in which the system can be introduced without any considerable change in the routine management.

The infectious type of catarrhal mastitis calls for a different method of treatment.

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Prof. Charles Laveran, a leading French scientist, has died at the age of 77. He did notable work on microparasites and on diseases transmitted by insects. He was a member of the Academy of Sciences and the Academy of Medicine and associate director of the Pasteur Institute. In 1907 he received the Nobel prize in medicine.

THE ACRIFLAVINE AND PROFLAVINE PREPARATIONS IN BOVINE PRACTICE [1]

By E. J. FRICK

Manhattan, Kansas

PREVIOUS TO THE WAR the flavine products were made only in Germany and their value as antiseptics was but little known. During the war they were made by British chemists and their solutions were much used in wound treatment.

Acriflavine is diaminomethylacridine. Proflavine is diaminoacridine sulphate. There are many other compounds of the yellow dye group such as agroflavine, trypaflavine, etc., that are coming into general use. In human medicine acriflavine today is almost completely replacing the argyrol and protargol treatment in gonorrhea.

The use of acriflavine and proflavine in bovine practice at the Kansas State Agricultural College clinic has extended over two years. The solution that apparently gave best results and was the most often used consisted of 1 gram of acriflavine and 5 grams of proflavine to 1 gallon of normal saline solution. This is about 1 to 4,000 of acriflavine and 1 to 800 of proflavine solution. It should be kept in amber-colored bottles, as strong light tends to decompose it. For intravenous use fresh warmed solutions should be used. To remove the stains on the hands wash with 1 per cent bichlorid soap.

The flavines are antiseptic, not disinfectant, in action. Inhibition of bacterial activity is the marked property of these compounds. The high bacteriostatic power and low toxicity to living tissues of the flavines is of great value in the successful treatment of local infections.

There is complete absence of evidence of damage to tissues where the acriflavine and proflavine salts are used in solution not stronger than 1 to 1,000. They are not neutralized by admixture with body fluids such as serum, urine, etc., therefore they do not require frequent renewal. They possess a high diffusibility and will penetrate through the submucosa of the urethra and bladder. They are relatively nontoxic and nonirritating.

[1] Presented at the fifty-ninth annual meeting of the American Veterinary Medical Association, St. Louis, Mo., August 28 to September 1, 1922.

Regarding the clinical use of the flavine solution on bovines, we have had very good results in the treatment of vaginitis, cervicitis, metritis and retained placenta, thoroughly washing out the horns and body of the uterus, using the return flow irrigation method with a solution of one ounce of our flavine solution to a gallon of clean normal saline water. Where infection is severe a stronger solution can be used without danger of irritation. In conditions of septicemia such as metastatic pneumonia following metritis, etc., intravenous injections of the stock flavine solution are administered. The dosage will be dependent on the condition. Thirty cubic centimeters every two hours for two days showed marked beneficial results in our hands. Local injection of infected quarters in cases of purulent mastitis, with the regular flavine solution, together with the internal administration of one ounce of formalin per os have given prompt recoveries. Puncture wounds of the udder responded well. As a wound dressing, wet flavine packs have given excellent results in recent wounds. There is an absence of toxicity in large wounds, prevention of suppuration and spreading of sepsis, and the primary dressing need not be changed for two or three days, and then is easily and painlessly removed. The yellow staining property is proof of its penetrating power and has its effect on the owner.

In long-standing, stagnating wounds and in infections caused by *Bacillus necrophorus* we have found iodin and potassium permanganate solutions to be more effective than the flavines. For washing out wound cavities, open joints, etc., one ounce of flavine solution to a quart of normal saline has worked admirably.

When administered by mouth or intravenously, acriflavine and proflavine appear in the urine in less than one hour and continue for 24 hours. We have not had an opportunity to test their value clinically in purulent nephritis or cystitis, but favorable case reports in human medicine are not lacking.

In Belgium an acriflavine paste prepared by mixing 0.1 per cent of acriflavine with sodium stearate is commonly used. Also a gelatin or starch mucilage containing 0.1 per cent of acriflavine is extensively used.

The flavines seem to have a selective action against the cocci group of organisms, as best results are obtained when treating that type of infection. Subcutaneous or intramascular in-

jections of dilute proflavine and acriflavine 1:1,000 solutions may be given in conditions where indicated. The flavines are not expensive when properly used, as a gallon of the combined 1 to 5 mixture costs about $1.80 and will go a long way. It leaves no disagreeable odor on the hands, and the stain is easily removed by means of bichlorid soap or solution.

In conclusion we wish to state that we have found solutions of acriflavine and proflavine to be decidedly beneficial in recent wound treatment in uterine and other body cavity infections and when used intravenously in conditions of septicemia, pyemia, pneumonia, etc. These preparations, like some few new friends, wear well and improve on further acquaintance.

LIVESTOCK DEVELOPMENT IN CENTRAL AFRICA

A recent report on government agricultural operations in the eastern province of the Belgian Congo, in the heart of Africa, shows that veterinary science is playing an important part in the development of a region that was first made known to the outside world by Stanley's explorations less than thirty-five years ago.

Good pasturage affords a favorable condition for stock raising, but livestock are not numerous. The Belgians are introducing good breeding animals and are taking steps to breed up the native stock by crossing. Dipping tanks are being installed. Bovine "sleeping sickness" (nagana?) and a disease known locally as "bitaka" are reported. Rinderpest has been excluded.

Buttermaking and cheesemaking are being developed, and churns are being introduced, as the native products "do not present guaranties of necessary cleanliness." Goats are numerous in some districts. Orpington chickens have been introduced and are doing well.

It is interesting to note that the Belgian Government is carrying out its promises to the natives by turning over to them breeding animals in payment for their aid in furnishing food and porters for the Belgian African forces during the war.

In the more fully developed region to the west the Belgians have a veterinary research laboratory. Among other work, investigations in vaccination against rinderpest are being carried on. This disease causes a mortality of 80 to 90 per cent in the native cattle which it attacks.

THE HANDLING OF THE FISTULA OF THE WITHERS IN PRACTICE [1]

By B. W. CONRAD
Sabetha, Kansas

IN ALL VOCATIONS there are unpleasant phases of usefulness. Human tendencies are to criticize and lay stress on disappointments. Veterinarians fail to perform the necessary surgical interference to make recovery possible in cases of fistula of the withers. Hoping to assist brother practitioners in their field of endeavor, I offer the result of seventeen years of experience in country practice, covering many cases of this disease.

The cause of fistula is immaterial. The fact that it exists is all sufficient. The essential thing for our profession is its cure, and as promptly as possible. The history, nature of swelling and location are of importance as showing the treatment necessary and in giving prognosis. Many cases are made incurable by the treatment of owners and empirics. Blistering seldom repairs the condition and must be approached with caution. Structures involved are too deep-seated to gain relief by external medication. My experience in the use of caustics has been disappointing. For twelve years I have followed surgical interference, and the longer I practice it the more convincing is its efficiency. The use of the Williams operation for poll evil and fistula has been followed for years. For the poll evil, it is good, but for the fistula I modify the operation and avoid the long incision on the crest of the withers, thus doing away with the possible large gaping wound and the unsightly conditions that my clientele resents. True, my treatment is more difficult and requires a more careful procedure, but its advantages warrant its continued use.

Manner of restraint is by twitch, local anesthesia, complete anesthesia and casting harness. Complete anesthesia is the ideal condition, but local conditions often make it impossible. Any other condition is courting censure from the humane society and lovers of animals. The instruments needed are clipping shears, scalpel, retractors, blunt-pointed bistoury, artery forceps, dressing forceps, curette, bone saw and bone forceps.

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[1] Presented at the fifty-ninth annual meeting of the American Veterinary Medical Association, St. Louis, Mo., August 28 to September 1, 1922.

The affected part in the adjoining area is clipped and painted with tincture of iodin. Be sure that the iodin covers not only the field of operation but also that area liable to give added infection during the operation. I take double precaution by washing the area above described with antiseptic solution, then let it dry. Another application of iodin is then applied. With the scalpel I make two incisions on each side, one anteriorly, one posteriorly, to enlargement. The anterior one is made obliquely downward and forward. The posterior one is made downward and backward. With the retractor lift the skin from each opening, and by use of the scalpel separate the skin from the enlarged area. Through the four openings dissect out the ligament and all necrotic tissues. In case the part to be removed is larger than the opening, divide the tissue into sections and thus remove it. Examine the spinous processes carefully; if injured, curette; if broken, remove with bone saw or bone cutters. Curette the whole cavity. With dressing forceps and pledgets of cotton remove all remaining tissues. Apply tincture of iodin to inside of cavity. Pack cavity with iodiform gauze. Remove in twenty-four to forty-eight hours. Then apply zinc oxid ointment or 00 capsules filled with iodiform every two or three days.

The great enemies of fistula are, first, the old-time quack with his bluestone, corrosive sublimate, butter of antimony, and caustics. Next is the officious neighbor advising some form of aqueous solution to irrigate the wound. Last, but not least, is the pharmaceutical house with its sure cure of fistula for two dollars.

The added use of bacterin in many cases assists the healing process, but all necrotic tissue once removed, very little after treatment is needed.

The National Veterinary Medical Association of Great Britain and Ireland held its fortieth annual general meeting at Bath, a noted English watering place, August 1 to 4.

A British veterinarian, according to *The Veterinary Record*, has executed an unusual commission in killing in a humane manner 27 cats belonging to an octogenarian spinster. The old woman's pets had overrun her establishment, and a relative ordered a wholesale clearance.

DISPENSING AS AN ASSET TO THE VETERINARY PRACTITIONER [1]

By CHARLES W. BOWER
Topeka, Kansas

IN PREPARING THIS PAPER it was not the writer's attitude to create any antagonistic feeling among our coworkers and friends the druggists. They have vast fields in which to work, and we are proud when we have several good pharmacists in our city with whom we can cooperate.

In selecting this subject I have in mind six main topics that I wish to bring out and upon them express due emphasis.

1. Dispensing as an asset (*a*) to veterinary practitioner, (*b*) to the clientele.
2. Accuracy.
3. Brings business back to you.
4. Purely professional.
5. A unique system in practice.

If a proper system of dispensing is followed it will be readily noted that the drugs dispensed will mean a great asset every month. From records of the writer's practice it will be found that in a month's business that has a gross income of $800 there will be from $150 to $200 of dispensing. This is not at all out of the ordinary, and it may be had in any practice if only a little time and care are given to this branch of our profession.

Another asset to the practitioner from dispensing is business that you would not get if it were not that your client wants a certain medicine. It happens many times that a person will come for a certain drug or combination of drugs to treat a case that he has diagnosed himself and doubtless correctly, too. He could just as easily go to the drug store, where he would purchase some patent concoction, but he knows that you will dispense, and thus he will give the business to the one to whom it rightfully belongs.

As an asset to the clientele I find that I can save my clients at least 66 2/3 per cent on their prescriptions and then make a very desirable profit myself. As another asset to the public, let

[1] Presented at the fifty-ninth annual meeting of the American Veterinary Medical Association, St. Louis, Mo., August 28 to September 1, 1922.

us take the man that came to you instead of going to the drug store. In this case let us imagine that he did not make a correct diagnosis. When he comes to you and asks for a certain medicine and tells you what he wants it for, you have the opportunity to prescribe and dispense for his exact needs and thus avoid the expense of his experimenting and injuring his animals.

As a second general topic, let us consider accuracy. Do not misunderstand me. I do not wish to imply that we as practitioners are much more accurate than a pharmacist, but it has come to pass many times in my practice and in yours that a pharmacist would get a certain prescription and if he didn't happen to have just exactly what was called for he would do a little substituting, and then if we didn't get the desired results our clients would blame us and we would not know why. If there is any substituting to be done the practitioner should be the one to do it.

We are trained in our various veterinary colleges to compound formulæ and to dispense in a professional way, and it is no more than right for us to exercise this training. Furthermore, it keeps our minds keen on materia medica, and causes us to look up and study medicine and materia medica more than we ever did in college.

In conclusion of this paper the writer wishes to bring before this group of practitioners a system that has been worked out in his practice. A great deal of dispensing is done, but a prescription is written for all medicine dispensed. The prescription is written just the same as if it were going to the druggist, but instead it is numbered and the corresponding number is placed on the label and the prescription is filed for further use and reference.

At first thought you will probably think that this is a lot of needless work and expense. In fact, perhaps many of you are telling yourselves that "I dispense as much or more medicine than that fellow, and I don't keep such a record either." That is doubtless true, but you should consider that with this system you not only have a complete record for refilling, which may be done absolutely accurately, but you also have a record of your good prescriptions that really hit the point. You also have the price you charged your client, so that there will be no dispute when a refill is made; and furthermore it will aid you to render better service. For example, suppose a client

would come into your office a year or two from the time he had a certain prescription filled and say to you: "Doctor, I want some of that medicine you gave me for my horse some time ago." It would take a good memory for a busy practitioner to remember what the man wanted. Whereas with the number on the old container the prescription may be readily found and refilled in proper and professional manner and accuracy. A neat label and a suitable container should be provided and the package should be neatly wrappped.

When your clients see you dispense and keep your record in such a manner they will doubtless ask many questions, but they will believe in you because they will readily see that you are putting in some extra effort really to help them and that you are making professionalism and accuracy paramount.

The appointment of Dr. Ernest B. Forbes, of Chicago, as director of the Institute of Animal Nutrition at Pennsylvania State College, was announced by President Thomas. He will assume charge of the institute at once.

Dr. Forbes received degrees in science and agriculture from the University of Illinois in 1897 and 1902 and the doctorate degree from the University of Missouri in 1908. At one time he was acting entomologist for the State of Minnesota and taught entomology and animal husbandry in the Universities of Illinois and Missouri before undertaking nutrition work at the Ohio experiment station. He is a member of the National Research Council, the American Chemical Society and other similar organizations, and his specialty is work with mineral elements in animal nutrition.

In Memphis, Tennessee, on July 28, a number of enthusiastic veterinarians from Arkansas, Kentucky, Mississippi, Missouri and Tennessee took steps toward organizing a new association to be known as the "Dixie Veterinary Medical Association" with a permanent home in Memphis. Officers were elected and a committee appointed to draft a constitution and by-laws with the understanding the first meeting to be held some time in October, 1923.

SOME OBSERVATIONS OF PRACTICAL INTEREST [1]

By M. JACOB

University of Tennessee, Knoxville, Tenn.

IF ONE were to attempt a review of experiences extending over a period of more than twenty years, giving due consideration to those things having both useful and practical bearing, it would occupy more time and space than one could reasonably expect on an occasion of this kind. However, if one is so inclined with his work, it is easily possible to present at least a few observations that may be of interest to those engaged in a similar vocation. The important problems confronting the veterinarian in one section of the country may be of lesser importance in another. As a matter of fact, they vary from an all-important to a negligible factor regarding their influence toward successful animal husbandry. This no doubt has in a measure been responsible for a difference in viewpoint regarding many important problems involving the activities of the veterinary profession. This is true also of many other lines of endeavor and should not be interpreted as lacking in professional efficiency. It is perfectly natural that one should become more conversant with problems that with him are more or less continual than those he has to deal with only now and then. However, as time goes on, every problem is becoming more universal, this through the influence of our modern system of education and a desire on the part of the veterinarian to familiarize himself beyond the confines of his immediate work. Then again, our commercial activities are such that a problem which is vital in one State, county or section today may be equally so in an entirely different one tomorrow. This is applicable especially to the livestock industry and therefore of interest to the veterinarian. With these few basic thoughts in mind, it is my purpose to review a few observations which I trust may be of some interest.

POWDERY MILDEW OF RED CLOVER

During the early part of last May we began receiving letters of inquiry at the University of Tennessee regarding a pecu-

[1] Presented at the semi-annual meeting of the Virginia Veterinary Medical Association, Blacksburg, Va., July 18, 1922.

liar clover disease appearing in some sections of the State. As time went on these inquiries became more numerous, and by the latter part of May we were receiving enormous numbers of inquiries by every means of communication, seeking information regarding this new clover disease and especially as to whether or not it was harmful to livestock. In the meantime, however, it had become prevalent on each one of our Experiment Station farms, and, as in every other section, was confined entirely to red clover. When submitted to our plant pathologist he identified the mildew as *Erysiphe polgoni,* which had occurred the previous year in some of the Eastern States, but further than that could give little or no information about it. Our Federal authorities could add nothing more other than that in Europe, where it has previously been seen, veterinarians had reported the occurrence of inflammatory conditions affecting the mucous membrane of the mouth, throat and stomach when red clover affected with this disease was fed to livestock.

In order to give our farmers dependable information regarding the advisability of feeding this mildewed clover, a preliminary feeding and grazing experiment was undertaken. This was considered very urgent, as many were reluctant in cutting their red clover for hay, and if it were not so used an enormous loss in feeding material for this year would have been entailed. Fortunately we had one field of about ten acres on the Station farm at Knoxville sown almost entirely to red clover and which was admirably adapted to conduct the experiment, which was started May 31. The field at this time had the appearance as though limestone dust or ashes had been broadcasted, which gives an idea as to the prevalence and extent of the mildew. A part of the field was inclosed, on which we placed four hogs and four sheep. They grazed on this area without anything else except water for a period of 14 days. From the other part of the field the clover was cut and cured for hay in the usual manner. This was fed to four Percheron colts, from one to two years old, and four Holstein heifers, each receiving only a small amount of grain. The hay was fed in quantities of about as much as they would consume, extending over a period of 14 days for the heifers and 35 days for the colts. During the entire period the animals were under close observation, and they gave no evidence that the clover so affected was un-

palatable and, as a matter of fact, seemed to consume it with the usual relish. At the close of the experiment the interior of the mouth of each animal was closely examined, but no evidence of any irritation could be detected. Furthermore, they all came out of the feeding and grazing experiment without any ill effect whatsoever. Our conclusion, therefore, was that powdery mildew of red clover (*Erysiphe polygoni*) is harmless to livestock.

However, in giving these results to the farmers and veterinarians of the State, we drew attention to the fact that the spread of this red clover disease could be partly accounted for by the unusual amount of rain during the spring and early summer, with the result that it was a very difficult matter on many farms to cure the hay properly before it was stored or stacked. We therefore may expect to see more or less forage poisoning if moldy hay of this kind is fed promiscuously, especially to horses and mules, which might incorrectly be attributed to the powdery mildew disease, which of itself has been found to be harmless.

EPIZOOTIC OF CANINE PSEUDO-EPILEPSY

During the early part of the past winter I received a few letters from the western section of the State asking for advice regarding a peculiar disease occurring in a dog which the owner always described as "fits." At that time I attributed the condition either to a complication of distemper or to some digestive disturbances brought on by the presence of intestinal parasites. But before long I began to realize that a condition existed which was entirely new to me and which differed very decidedly from the usual line of nervous disturbances in dogs with which we are all more or less familiar. By the beginning of April it had become so widepsread that the laity had already determined upon its nomenclature and referred to it as "fright disease," "running disease," "fit disease" or "running fits," based, of course, upon the most pronounced symptoms. Since then I have had an opportunity to observe a great many of these cases and have endeavored to draw some conclusions based upon clinical characteristics. I have made a careful search of available veterinary literature, but as yet have been unable to find anything which in its description bears any resemblance to this disease unless it is tetania or tetanus inter-

mittens, referred to but very briefly by Hutyra and Marek. So far as I have been able to learn, it has made its appearance in practically all of the Southeastern States. Whether it has occurred in other sections of the country I am not at this time prepared to say.

As in true epilepsy, the onset is very sudden, with no apparent premonitory symptoms. The dog goes into a state of extreme excitement, and unless confined will run and howl as if terribly frightened. At times the attack is more typical of the ordinary convulsion, although a complete loss of consciousness is not characteristic, in which respect it differs from true epilepsy. The attacks are usually of short duration, lasting as a rule for only a few minutes, following which the dog again assumes its normal composure. In the majority of cases there is a recurrence of the attacks within a few hours, days or weeks. I personally know of cases that have developed these paroxysms at varying intervals for a period of more than two months. Then again, I know of others that had only one attack and suffered no further inconvenience. In a few cases, following repeated attacks, the dog manifested considerable depression. During the periods of excitement there is frequently noticed involuntary movement of the bowels and kidneys. There is no change in temperature other than a slight elevation during or immediately following the attacks. It affects dogs of any age or breed. The history of these cases does not indicate an association or complication with any other disease, the owner invariably stating that the dog appeared absolutely normal previous to the attack.

In a few cases upon which a postmortem was held there were no visible lesions other than a hyperemic condition of cranial meninges, varying somewhat in intensity. The mortality from this disease is comparatively low, although a large number of dogs so affected have been destroyed, on account of the faulty impression that it was a form of rabies. I have heard of communities where the dog population has been practically wiped out, the people having become panic stricken when a few of these cases occurred, which resulted in destroying not only the affected dogs but the exposed or others of the community as well. Then again in some instances the owner or attendant has been bitten while trying to control the dog during these violent

attacks. This was due, however, to the fact that the dog was biting for freedom instead of with malicious intent. Nevertheless, as is usually the case under conditions of that kind, the guilty dog as well as others in the neighborhood must submit to destruction.

The treatment as carried out by myself has been relatively simple, consisting of a hypodermic of apormorphia in one-tenth to one-eighth grain doses administered during or immediately following an attack, and in one or two hours later give a large dose of castor oil, the latter to be repeated in four or five days. In addition the dog should be fed very lightly for at least two weeks and should be confined in the meantime. Following the initial dose of apormorphia, nerve sedatives in the form of bromides may also be indicated. This line of treatment has given satisfactory results.

Now the question comes up, what are we dealing with? As previously stated, until the beginning of the present epizootic this disease, in its present form at least, was entirely new to me, and the fact that no dependable reference could be found in any veterinary treatise is further evidence that it is new or has passed unobserved by the profession.

Although having no laboratory proof, I am of the impression that it is an infectious disease with the probable localization of the organisms in the region of the central nervous system and manifesting itself by the psychic disturbances already referred to. It would be difficult to conceive of a disease becoming so widespread in such a short period of time, presenting such well-defined symptoms, unless there existed a specific etiological factor. There may, of course, be certain secondary conditions essential for its occurrence, which, to me, however, have not become apparent. From the fact that dogs in the pink of physical condition seem especially susceptible, the disease bears considerable resemblance to many other infectious diseases with which we have to deal. The future no doubt has in store for us considerable interesting information regarding this disease. In the meantime, however, we might at least adopt a name suitable to the condition. I would suggest canine pseudo-epilepsy, to which the term "infectious" might be added whenever subsequent pathological study establishes this fact.

UDDER INFLATION

Another thing which has been of more than ordinary interest to me is the effect of udder inflation in the treatment of animal diseases. For a number of years we have been more or less familiar with results that at times seem marvelous in the treatment of parturient paresis when the udder is inflated with air or oxygen. There was a time when I gave no consideration to this method of treatment unless the case was typical of parturient paresis and occurring within a few days of or soon after calving. But as time went on, I found myself using this method of treatment in milk cows in many cases that could not rightfully be called parturient paresis or milk fever, if we consider its relationship to calving as an essential in making our diagnosis. Such cases as I refer to are characterized by normal or subnormal temperature, incoordination of gait or else the cow being unabble to stand, and marked depression going on to a state of complete coma, the bowels in some cases being inactive and in others decidedly loose. While in a recumbent position, the cow usually maintains a posture typical of the ordinary case of milk fever. These symptoms may be present at any time during the gestation period or even when she has not been carrying a calf for several months. Usually such cases are referred to as toxemia and the history is such that the condition may rightfully be attributed to some dietary cause. At any rate we are safe in saying that parturition in many of these cases is not a factor. Yet my experience has been that a very large percentage of these cases readily respond to the ordinary milk-fever treatment. This with me has become so firmly established that whenever, to use the common expression, "the cow is down or nearly down," and the case is acute and not of traumatic or infectious origin (specific), the inflation of the udder becomes the important part of the treatment. This may appear to some as being on the verge of empiricism. However, I can answer this by asking whether the pathology of parturient paresis and its treatment have ever been explained to your entire satisfaction?

Another observation along this line which I believe has some practical virtue is the ability to prevent typical parturient paresis by maintaining the udder in a partially distended condition both before and for several days following parturition.

This, of course, is accomplished by not milking at all a short time before and only partly for a few days after the calf is born. It is only reasonable that this should be so, as it is simply a natural instead of an artificial means of distending the udder.

Another condition in cows which has responded with at least a fair degree of success are strictures or fibrous teat obstructions. By repeated inflations bringing about a continuous stretching of the lumen of the teat gradual but satisfactory improvement has occurred. When we take into consideration that ordinary surgical interference in cases of this kind is far from satisfactory, we have reason to expect far better results from the inflation method.

In my experience this form of treatment has served a very useful purpose in the treatment of eclampsia in bitches. The teat orifices in bitches can not readily be entered, consequently the inflation apparatus is adjusted with a fine hypodermic needle and inserted deep into glandular tissue for the inflation of each section of the mammary glands. This treatment is further supplemented by the administration of hypodermic injections of apomorphia. I should state in this connection, however, that in a few instances I have observed sudden deaths, which I attributed to a puncturing of the blood vessel, bringing about emboli with fatal results. In order to avoid this, instead of inflating the mammary glands, I have more recently resorted to the inflation of the uterus. This can be done by introducing a suitable tube through the vagina directly into the neck of the uterus and then holding the lips of the vagina firmly with the fingers for a period of fifteen or twenty minutes.

I will cite a case incidentally coming under my observation several years ago—to be more specific, in the spring of 1913—which I consider interesting from the standpoint of the subject under discussion. The wife of a very close friend of mine was confined and subsequently developed a very severe case of puerperal eclampsia. In spite of the efforts of several good physicians, she gradually became worse and a fatal termination was anticipated at any moment. The physicians, who were also my personal friends, stated that they had exhausted every method of treatment. I availed myself of the opportunity to suggest that they try the inflation of the breasts with oxygen. Within twenty minutes they had the oxygen tank ready and were administering the treatment. Within 30 minutes more

the afflicted woman showed marked signs of improvement, which continued to a rapid and uneventful recovery.

I believe that I have brought out enough to emphasize the rather wide range of usefulness for this method of treatment. There are, however, a few things that should not be underestimated. First, the importance of an absolutely aseptic technique, and second, discard air and use only oxygen. I am an advocate of oxygen because it lessens the possibility of contamination, the cost is not prohibitive, and it is much easier to administer and gives more satisfactory results. The greater respect which it commands from your client should at least make the use of oxygen worth while.

BRAHMAN CATTLE FOR THE GULF COAST

A Brahman bull has been purchased for the Iberia Live Stock Experiment Farm which is conducted by the United States Department of Agriculture at Jeanerette, La. There is a general belief among some cattlemen in certain sections of the southern coastal region of the United States that the progeny of grade Brahman bulls of desirable type have certain outstanding merits that make the use of these bulls on native and grade cows preferable to the use of sires of better-known beef breeds.

Several points favoring Brahmans are claimed by the producers. Among the more important ones it is claimed that Brahman cattle withstand the insect pests and diseases prevalent in the low and damp areas and that they withstand the heat during the summer season better than the recognized beef breeds. It is also claimed that fewer bulls per hundred cows is necessary where Brahman bulls are used, and the basis for this statement is attributed to the vigor and vitality of Brahman bulls.

The work at present is to compare the merits of a purebred bull of a breef breed and a Brahman bull as sires for a herd of grade beef cows in the South.

BEFORE AND AFTER

As the old darkey said, "A chicken am de most usefullest animule there be. Yo' can eat him befoah he am bohn an' aftah he am dead."—*Life*.

TUBERCULIN TESTING THE DAIRY COW[1]

By W. F. MILLER
Stuttgart, Arkansas

THE EXTENT and rapid increase of bovine tuberculosis has, during recent years, caused alarm, and rightly so, because of its effects in reducing the general food supply and its great danger to human health. Admitting, as we must, the increase of this disease among our food-producing animals, particularly cattle and swine, it appears that this fact should cause as great concern from a practical health standpoint, irrespective of the direct communicability of tuberculosis from animal to man. The important question as to whether bovine tuberculosis can be directly communicated to man has attracted considerable attention in this country for several years and has been discussed at several medical meetings and by scientific men generally for the past several years. The conclusion has been reached by the most advanced thinkers and writers that bovine tuberculosis is readily transmitted to man.

Of all the diseases that affect humanity, tuberculosis is the most fatal. It has been conservatively estimated that each year there are 1,095,000 deaths from this disease throughout the world, representing 3,000 each day, two for each minute. In the United States there are, according to Dr. Frederick L. Hoffman, Actuary of the Prudential Life Insurance Company, 150,000 deaths annually at an average of 35 years of age. A pamphlet issued by the Prudential Life Insurance Co. says: "Each of these deaths represents a loss of 32 years, so that the loss of life, if measured in time units, annually amounts to the startling total of 4,800,000 years. In terms of earning capacity the loss can not be set down at less than $240,000,000 annually from this disease in the United States alone."

In Arkansas there is a loss of approximately 3,000 human beings from tuberculosis annually, affecting chiefly young men and women between the ages of 20 and 30, and at any time approximately 25,000 people in the State are totally or partly incapaci-

[1] Presented at the meeting of the Arkansas Veterinary Medical Association, Little Rock, June 9, 1922.

tated by reason of the prevalence of tuberculosis. Ten per cent of the patients in one sanitarium at Denver are from Arkansas. Tuberculosis kills as many people, young and old, as diphtheria, croup, whooping cough, scarlatina, measles and typhoid fever taken together. Therefore, it is a social problem worthy of our serious consideration. During the past few years this problem has been receiving an increased amount of earnest attention. Only a few years ago it was neglected, and there was, in fact, no social effort being made to combat its ravages, whereas at the present time there is a well-organized movement looking to the eradication and prevention of this terrible disease. People are being educated and instructed how by proper precautions the afflicted may be cured and the well prevented from contracting tuberculosis.

It is an undisputed fact that tuberculosis can be acquired by ingestion as well as by inhalation and inoculation, but until recently the part played by cow's milk in the transmission of this disease has not begun to receive serious consideration. That many persons, both old and young, have been infected with tubercle bacilli through the milk of cows suffering from this disease is one of the best attested facts in modern pathology, but the extent to which children are the victims of this plague is only now being recognized. Many of the leading conservative authorities have long held that feeding upon milk from tuberculous cows is one of the causes of infection to which close attention should be given. Prof. von Behring goes very much further and says that the milk fed to infants is the chief cause of infection. Dr. E. F. Brush, one of our best authorities, regards all tuberculosis as being of bovine origin.

In conclusion, I appeal to every veterinarian in the State of Arkansas to urge the tuberculin testing of dairy cattle.

Dr. Mason Weadon of Washington, D. C., who graduated from the University of Pennsylvania in the class of 1922, has located at Vero, Florida, where he states a better opportunity is offered for veterinary work than one would imagine.

Dr. Weadon is also interested in a large citrus fruit grove and a chicken ranch and is optimistic about the rapid development of his locality.

A COMPARATIVE STUDY OF HUMAN GRIPPE AND CONTAGIOUS PLEUROPNEUMONIA OF THE HORSE (EQUINE GRIPPE)

By Dr. E. Bemelmans, *Tilbourg, Holland*[1]

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(*Continued from the September* Journal)

III. Bacteriology

In spite of bacteriological researches undertaken on many sides since the beginning of the twentieth century, no one has succeeded in establishing the etiology of the so-called contagious pleuropneumonia of the horse.

Before Schütz, who, as a result of his researches in 1887, considered the diplo-streptococcus as the cause, Friedberger in 1874, as well as Siedamgrotsky, appear to have already determined the presence of a coccus by the microscopic examination of the pleural exudate. Peterlein, Perroncito and Brazzola, and also Mendelsohn, found in the hepatized lungs of horses diplococci analogous to those of man.

The investigations of Rust (1887), Hell and Foth (1888), Chantemesse and Delamotte (1888), Cadéac (1889), Fiedler (1891), Falke and Silvestrini and Antonini (1899) confirmed the opinion of Schütz.

Some experimentalists succeeded in provoking a pneumonia in horses by means of an injection of cultures of diplo-streptococci into the lung (Schütz), as well as in the trachea (Hell). Cadéac succeeded equally with donkeys, while Fieldler, according to his writings, provoked typical pleuropneumonias with pure cultures.

In opposition to this group of investigators are those who attach a greater importance to the ovoid bacillus as the etiologic factor of the disease.

The high mortality among horses of the Parisian Omnibus Company was the cause of Pasteur himself directing his atten-

tion to the disease in 1881. Pasteur inoculated guinea-pigs with the nasal secretion. These succumbed, and from various organs he obtained oval bacilli in pure cultures and which presented a great analogy with the bacillus of fowl cholera. However, Pasteur never considered these ovoid bacteria as the cause of the affection.

In 1890 there were published the results of Babes' investigations, which he considered as the continuation of those of Pasteur. Babes found in the lungs of horses, in addition to diplo-streptococci identical with those determined by Schütz, some oval bacilli whose morphologic and pathogenic characters conformed largely to those of the oval bacillus of rabbit septicemia and fowl cholera (of the hemorrhagic septicemia group). Direct injections of these oval bacilli into the lungs seemed to provoke pneumonias with necrotic foci and which were fatal.

Lignières interprets in the following fashion the action of oval bacilli associated with the diplo-streptococci of Schütz: The oval bacilli invade the equine organism only at the beginning period of the disease, preparing the ground for the action of the diplo-streptococci of Schütz and then quickly disappearing.

As is known, the absence of Pfeiffer's bacillus of influenza in fatal cases of human influenza is explained in an analogous way. As for the significance of the oval bacillus (coccus) of equine grippe, my bacteriologic researches have proved that these germs are found in the course of this affection in the respiratory apparatus; their presence, without any doubt, is sporadic. The researches of Ostertag and Troester, of Bongert and Grabert, of Pfeiler, of Robert Koch, of Gaffky and Luhrs, have shown decisively that one must not attribute to the oval bacilli of Lignières any causative rôle, either for the malady called contagious pleuropneumonia with a normal progress, or for the pneumonia with complications.

From what precedes it follows that until 1900 investigators did not aim to discover the germ which essentially provoked the affection, but their chief aim was to discover what microbes were the cause of the pulmonary complications. Generally this secondary pulmonary inflammation was considered as a primary contagious pneumonia and not as a complication.

After 1900 reaches were instituted, especially in Germany. It is interesting to state that since that time it has no longer been

a question of the oval bacillus as a cause of the secondary pneumonia. It may be admitted as proved that in different regions the secondary infections of the lungs, which occur in the course of equine grippe, are provoked chiefly by two germs—the diplo-(pneumo)-streptococcus and the oval bacillus. The presence of the first is always more frequent. If the second bacillus is observed, diplo-streptococci will be noticed at the same time.

At the end of the twentieth century the study of the affection was entrusted chiefly to Professors Ostertag and Troester. Troester's investigations, treating especially the experimental production of contagious pneumonia, were negative. Ostertag likewise obtained no results.

As contagious pneumonia always presented a great danger to the combative force of the army, Robert Koch received the governmental commission to begin research on the cause of this affection. It was hoped that the question would then be cleared up. However, such was not the case, for the results obtained by Koch contributed nothing new concerning the nature of the disease.

In particular, Koch was able to attribute to diplo-streptococci only a causal rôle of the secondary affection, although frequently found in the respiratory tract and the lungs, because—

1. It was impossible to produce the so-called pneumonia with a pure culture of diplo-streptococcus;

2. In some cases, which moreover were very acute, their presence in the lungs could not be detected.

Likewise the disease could not be provoked with other bacteria, particularly the oval baccillus found in the affected lungs.

This eminent experimenter also carefully investigated, as was his custom, whether other animals might eventually be taken into consideration as carriers or transmitters of the virus, as had been previously supposed. Mice and rats treated with the excrement of pleuropneumonia sufferers never became ill. It was the same with healthy horses receiving with their rations the excrement of mice and rats, as well as insects taken in the contaminated stables. Flies, gnats, spiders, coleopteras, bugs and other insects found in the infected stables were transported, together with some dust, into other stables which were not contaminated and were placed on healthy horses, without a single infection being produced. The results were likewise negative

with the only insect which sucks the blood, *Hematopinus macrocephalus,* an insect commonly found on horses. At the end of his report Koch declared that the question of the nature of contagious pneumonia remained absolutely unsolved.

After the death of Koch, Prof. Gaffky received the commission to continue the research. This investigator, in collaboration with health officers and military veterinarians, instituted new, extensive microscopical researches, utilizing the most recent methods. He examined 523 organs and more than 4,000 microscopic preparations fixed and stained by different methods. Cultures executed in different ways and on a large scale gave no result at all. The cultivated germs did not differ from those found in healthy horses and were not in a condition to provoke the disease. For his investigations Gaffky utilized young horses which had never had an attack of contagious pneumonia. Like Koch, Gaffky arrived at the conclusion that it was impossible to infect rabbits, guinea-pigs or colts by the administration of secreted products or the organs of horses which have succumbed to the disease; neither could it be done by utilizing rats or mice as intermediary animals. Experiments with insects and parasites found in the stables also gave negative results.

As for my opinion, I am certain that the infection is not produced by the intermediation of insects. Fleas or bugs are found seldom or not at all on the horse. A rapid propagation by lice is impossible. In autumn, winter or spring, when contagious pneumonia is usually prevalent, there are no flies or gnats. For this reason it has been considered useless to institute other experiments with insects as transmitting agents.

Such was the state of investigations when I was charged with the study of this disease. No one doubts that the hope of obtaining any better results was slight. My researches were founded upon—

1. Bacteriologic examination of the air expired, the blood, the excretions, the exudate, and different organs of animals affected with or having succumbed to the so-called contagious pneumonia.
2. Experimentation on animals, relative to the transmission.
3. Experiments relative to the transmission of human grippe to horses, etc.
4. Injections of Pfeiffer's bacillus into horses.

1. *Bacteriologic Examination of Different Products from Animals Affected with or Dead from Contagious Pneumonia*

The results obtained may be summarized thus:

a. Air expired. In cases with normal progress, as well as those with pulmonary complications, the presence of diplo-streptococci in the air expired by the sick was determined several times. This was accomplished by means of plates of serum-agar.

b. Blood. Numerous examinations of blood from the jugular veins of horses affected with normal forms of the disease and of subjects which were on the road to recovery did not permit the determination of the presence of germs, either microscopically or bacteriologically. Only at the time of severe complications, when signs of the danger of death were manifested, diplo-(pneumo)-streptococci were observed as a general rule in the blood during the twenty-four hours just preceding death.

c. The rusty mucous discharge which drained in small quantities from the nasal cavities at the time of the existence of symptoms of pneumonia appeared to contain generally diplo-streptococci, white and lemon staphylococci, *Bacillus coli*, sarcinæ and *Bacillus pyocyaneus*. The presence of *Bacillus ovale* appears to be very sporadic.

d. Laryngeal mucous membrane. The second day after the temperature had attained 41.2°C. (in 24 hours and two bounds), tracheotomy was practiced on a subject attacked with contagious pleuropneumonia. Some laryngeal mucus was collected by means of a cotton swab fixed on a metallic rod, and this was immediately treated bacteriologically. In it there were constantly found diplo-streptococci which were very virulent.

e. Transudate. The bacteriological examination of the pleural transudate from the thoracic cavity of horses whose recovery was complete in a short time was negative. The coloration of the pleural effusion was the same as that of bloody serum. That this fluid is a transudate and not an exudate is obvious from the quantity of residue after desiccation at 105°C. It contains only 4 per cent of solids.

Frequently repeated examinations of the blood as well as of the pleural transudate immediately after their extraction always gave negative results. The presence of microbial germs or of

protozoa could not be determined. The culture media utilized were broth, serum-bouillon, agar, serum-agar, and serum from coagulated blood.

The diplo-streptococcus was found in the blood of the lungs as well as in the pleural exudate of horses which had succumbed to grippal pleuropneumonia. This was especially the case in three horses which had died from empyema.

In these cases the color of the pleural exudate was a dirty red. Mice in which some of this exudate was injected succumbed in 36 hours in consequence of a diplococcic septicemia. The presence of diplo-streptococci and especially of streptococci (short chains of 4-6 cocci) in the pleural exudate was verified.

f. Synovia of the tendons. At the remount depot I had occasion at different times to perform a bacteriological examination of the synovia from ordinary tendinous synovitis. I never succeeded in finding germs in it.

g. Lungs. The examination of the lungs of horses which had succumbed following pneumonia and whose lungs had been sent to me from various regions of the country was profitable. The bacteria found after a complete bacteriological study were: Diplo-streptococci (cultivated in a liquefiable medium under the form of small streptococci), staphylococci, (white, golden and yellow), sporadic oval bacilli, sarcinæ, *Bacillus subtilis, B. pyocyaneus* and *B. coli*. The presence of diplo-streptococci and staphylococci was always predominant.

The above-mentioned bacteria may also be found at different times in the nasal mucous discharge of healthy horses. The microscopic examination of smears obtained from different organs, such as lymph nodes, heart, liver, spleen, kidneys, gave no appreciable result. It was the same with preparations stained by the various methods used for recognizing protozoa (trypanosomes and spirochetes) of the blood and other organic fluids.

2. *Animal Experiments to Determine the Transmission of Contagious Pneumonia (Grippe) of the Horse.*

a. Mice inoculated hyperdermically with the rusty nasal mucus usually died in forty-eight hours. From time to time staphylococci could be cultivated from the heart. More often the mice appeared to die as a result of a diplo-streptococcic

septicemia, and sporadically only from a septicemia due to the oval bacillus.

b. Mice inoculated with the secretions from the upper respiratory tract (secretions obtained aseptically by tracheotomy) usually succumbed in twenty-four hours from a diplo-streptococcic septicemia.

c. Injections of blood, collected on different days from horses attacked with the typical affection with a normal course, are accomplished as follows:

(1) Mice—subcutaneously;

(2) Guinea-pigs—subcutaneously;

(3) Rabbits—subcutaneously and intravenously;

(4) Horses—subcutaneously, intravenously, intratracheally and intrapulmonarily;

—and always with the same result.

d. It was likewise impossible to provoke the least reaction in these animals by means of the pleural transudate. After twenty-four hours only an absorption could be observed in horses that had been injected with the exudate of tendinous synovitis, which was manifested during the course of the affection or the convalescence.

e. The dirty red hemorrhagic fluid of the pleural effusion, injected at different times by venous or intratracheal means, did not provoke the disease.

This pleural exudate had been obtained aseptically from the horses affected with the disease, either before or after death. The presence of diplo-streptococci could always be detected there.

A colt which it was certain had never had pleuro-pneumonia was (1) injected by the intratracheal method with 10 c.c. of pulmonary material obtained in the following manner: A fragment of lung from a horse which had died from grippal pleuro-pneumonia was cut aseptically into small pieces and triturated in a mortar with a solution of sterile sodium chlorid. To separate the solid particles the mass was filtered through a layer of cotton. With this filtrate the subject was inoculated by means of an intratracheal injection. It provoked no reaction. (2) Taking another colt, I injected into the lung 10 c.c. of this filtrate, which, like that used for the intratracheal injection,

contained diplo-streptococci, staphylococci and *Bacillus subtilis*. The result was only a weak thermal reaction of 1.2°C., lasting scarcely twenty-four hours.

This filtrate was injected into the veins of a four-year-old horse with negative results. Several repeated trials produced the same results. It is therefore impossible to infect horses with the blood, pleural exudate or tendinous synovia of horses attacked with grippe and recovering from it, even though it is proved that the animals used in the experiment are not immune to the disease.

It was thus impossible to produce the affection by means of a pulmonary exudate and lung fragments of dead horses in which diplo-streptococci as well as oval bacteria were found. Thus it seems impossible artificially to infect healthy receptive horses.

There is no reason for making experiments with filtrate obtained by passing blood and secretions through bougies, since from what preceded it is seen that a filterable virus may be excluded as a cause of the disease.

Summarizing, it is then proved: (1) That the so-called contagious pleuropneumonia of the horse is not a bacteriemia; (2) that the causal agent of the affection is absolutely not filterable.

Neither Ostertag nor Koch having succeeded in provoking the disease in healthy horses, with pure cultures nor with the diplo-streptococci of Schultz nor with the oval bacteria of Lignières, it was useless to repeat these attempts on costly experimental animals.

Moreover, Pfeiler (6) had decided that question. Pure cultures of diplo-streptococci as well as of oval bacteria were injected into twenty-four horses, in different ways, separately or mixed. From these attempts Pfeiler thought he should conclude that he had succeeded in provoking pleuropneumonia in horses by intravenous injections of the diplo-streptococci of Schutz.

Ostertag did not reach such a conclusion. The results of some of his experiments were interesting, in so far as he provoked complications such as tendinous synovitis and intraocular inflammations, as well as foundering. As we have previously seen, these complications are observed in contagious pneumonia of the horse.

3. *Experiments on the Transmission of Human Grippe to Horses*

After I had the assurance that clinically human grippe was identical with contagious pneumonia (grippe) of the horse, as much in its abortive form as in its normal or complicated form, I could not resist taking the occasion to see if human influenza was eventually transmissible to the horse. I did not hope for much from these attempts, because of the fact that no one has ever succeeded in transmitting contagious pneumonia from a sick horse to another receptive.

The sputum of men affected with a noncomplicated grippe, as well as the expectoration of those sick with a complicated pneumonia, were administered to horses, mixed in the drinking water and the feed. In this manner I did not succeed in provoking the least reaction among the horses.

The same was true of deposits of these excretions in the nasal openings or superficial rubbings on the nasal mucosa. After intratracheal injection there was produced a slight elevation of temperature, but this lasted for only a few hours. From these experiments, then, it results that it is not possible to transmit human grippe to horses by means of the sputum and excretions from subjects attacked with the typical affection.

4. *Injections of Cultures of Pfeiffer's Bacillus Into Horses.*

The numerous bacteriological researches instituted concerning contagious pleuropneumonia of the horse are all the more interesting since eminent bacteriologists such as R. Koch and Gaffky have concerned themselves with them. It is true that at that time the question of the identity of this affection with human influenza was not even established, but the worth of these scientists is a sure guaranty that they would not have misconstrued the analogies of the different organisms which they found with Pfeiffer's bacillus of influenza if these analogies had existed.

Neither have I succeeded in determining the presence of the influenza bacillus in the respiratory apparatus, whether that of a healthy horse or of one affected with contagious pneumonia. As is known, this bacillus requires a special culture medium for development. It is not cultivated in the blood of a horse. Even in the preferred media (pigeon blood, human blood) it dies

quickly and necessitates frequent transplantations to preserve its vitality. The formation of toxins in these media has not been mentioned at all, for the reason that I have never been able to attribute any importance to this supposed bacillus of influenza as a generator of grippe, because the symptomatic picture of grippe incontestably indicates that it must be provoked by toxins produced in the course of the disease.

I have concluded, first, that by injections of virulent cultures of Pfeiffer's bacillus it would be impossible to provoke contagious pleuropneumonia of the horse. Indeed, the transplantation into the nose of these cultures, superficial rubbing on the nasal muscosa, as well as intratracheal injections, gave no result.

In spite of very numerous investigations, no one has yet succeeded in discovering the specific virus of human grippe or of contagious pleuropneumonia of the horse.

It is known that Pfeiffer in 1891, in many cases of grippe, found in the sputum great quantities of a bacillus which he considered the casual agent of the disease. Numerous articles have since then been published on the rôle of this bacillus, particularly during the epidemic of 1918. It has been asserted that in certain regions Pfeiffer's bacillus was frequently found in subjects affected with a grippal pneumonia; though often few in number at the beginning of the disease, these bacilli become very numerous during the progress and at the end of the disease. In other regions these germs are not found at all or only exceptionally. Pfeiffer himself was able to find his bacillus in only 51 per cent of his cases.

These germs are not found in very acute cases of grippe (Schottmueller). Thus many bacteriologists arrived at the conclusion that Pfeiffer's bacillus incorrectly bore the name of "influenza bacillus." This is true of Prof. Friedman, who did not hesitate to admit the existence of epidemic affections presenting the symptomatic picture of influenza and nevertheless entirely independent of the bacillus of Pfeiffer. Pritschett and Stilman (7) in 43 per cent of their cases isolated bacilli of influenza from the sputum of healthy individuals. Kensella (8) points out the presence of these germs in the pharynx of healthy individuals, without any epidemic diseases of grippe. Moreover these bacilli have been found in the pharyngeal and pulmonary

lesions at the time of pneumonia, whooping cough, measles, and scarlatina, as well as in other pathological conditions without grippe, particularly during endocarditis, meningitis, conjunctivitis, dysentery, etc.

A number of reputed and experienced bacteriologists, such as Schmorl, Oberdorfer, Kruse, Kolle and Selter, did not recognize any causal rôle of Pfeiffer's bacillus in human grippe. Rumpel, Selter and Paltauf discovered Pfeiffer's bacillus in the upper respiratory tracts of various patients presenting no symptoms indicating influenza.

Pfeiffer has personally claimed that the bacilli of influenza are found, sometimes even in a large quantity, in the sputum of tuberculous patients, of individuals affected with a chronic bronchitis and with bronchiectasis. These germ carriers do not suffer at all from the grippe, no more than persons found in their immediate vicinity.

Attempts made by Pfeiffer to transmit influenza to the monkey failed; a simple thermal reaction was produced, but not genuine grippe. Other investigators injected virulent cultures into the trachea and lungs of monkeys but had no better success. The bacilli die quickly; they appear to act only through intracellular toxins liberated at the time of their death. The monkeys succumb, presenting collapse and dyspnea. By injections into the veins and peritoneum, strong doses of cultures killed rabbits and guinea-pigs.

Horst (9) performed numerous inoculations with cultures of the influenza bacillus on rats, guinea-pigs, mice, rabbits, cats and pigeons. The result was always negative. Thus it follows that Pfeiffer's bacillus possesses no severe pathologic action, a fact which I have equally established for the horse.

It is to be considered, moreover, that in cases of grippe where the presence of the influenza bacillus has been demonstrated the progress of the disease is not more severe.

Experiments instituted on man have likewise given no result. Thus Yamanouchi, Sakakami and Iwashima (10) injected a culture of Pfeiffer's bacillus into the noses and throats of a certain number of individuals. None of these manifested any symptoms of influenza.

We must also remember the failure of Uhlenhuth's attempts to put into evidence specific aggultins in the blood serum.

Finally, McConnell (11) contests the theory of Pfeiffer's bacillus as a cause of the affection with the following argument: The nonmodification of the number of leucocytes after the injection of this bacillus, while in influenza a leukemia is produced.

For these various reasons I believe that it is wrong to consider Pfeiffer's bacillus as a causal agent of human inflenza. No causal relation exists between these bacilli and grippe; they may be regarded only as companions of the human organism. If they are present, they lead an existence of saprophytes and await a favorable occasion for multiplying rapidly and for preparing the soil for other germs with which they live in symbiosis.

As far as human grippe is concerned, I attribute to the bacillus of influenza only a secondary importance, entirely comparable to what occurs in contagious pleuropneumonia of the horse and also in grippal pneumonia in man (Orticoni, Barbier and Auge, 2).

IV. EPIDEMIOLOGY

The idea that human grippe always rages as a pandemic throughout all the country should no longer be accepted. All who have studied the disease unite in admitting that catarrhal affections and febrile catarrhs rage under an epidemic form at the beginning as well as the end of each year, due usually to changes in the temperature and other atmospheric influences.

The so-called contagious pleuropneumonia of the horse is also prevalent regularly each year among young horses wherever many of these animals are assembled.

These are some epidemiologic facts which present a great importance to the etiology. For the beginning of the disease also there exists a manifest analogy between the human and equine diseases.

Thanks to the regular recording of the temperatures of the young horses after their arrival at the remount depot, I have been able to form an exact opinion of the beginning of this disease. Since 1886, the year of the installation of the remount depot, contagious pneumonia has raged every year among the young horses. The manner of the onset is identical, as a general rule. There are differences only in the date on which the first cases appeared. In this respect several factors intervene: (1)

Condition of the horses upon their arrival; (2) meteorologic conditions which follow stabling; (3) the hygienic condition of the stables where the animals are kept.

If horses stay too long at pasture there results a loss of weight. Changes in the upper respiratory passages are then produced, especially if meteorologic conditions are unfavorable. The duration of the development of the contagious pleuropneumonia is in direct relation to these different factors. The mild, nasal and pharyngeal catarrh which horses exhibit on their arrival at the stables, after their return from the grass lands, induces the affection and greatly influences the evolution of the disease.

If meteorological conditions are unfavorable after confining the horses in the stable; if it is impossible, for example, to take them out on account of rain, or if the quarters are not adequately ventilated, we see the cases of nasal and pharnygeal catarrh multiply, particularly in stables presenting the least favorable hygienic conditions. It is in these surroundings that sometimes after two or three weeks typical cases of contagious pneumonia (grippe) appear.

If, on the contrary, the horses return from pasture in a better condition, if the meteorological conditions before and after quartering are favorable and permit long stays in the open air, if the stables are well ventilated, weeks will pass without a single suspicious case being found, the animals eating well and not coughing at all.

As a general rule, for a short time some horses in different stables refuse a part or all of their feed, cough a little, and show an elevation of temperature. Frequently the disturbance disappears in 24 or 48 hours. A few days later other horses leave their feed. This is repeated. In the most poorly equipped stables, in which the first cases have been observed, new cases are presented, the symptoms increase, and cases with severe complications may then be noticed.

Horses apparently healthy when leaving the pasture thus bring the virus. It is inadmissible that the cause of the infection is found in the same stable, considering the fact that each year all the stables are cleaned and disinfected before the arrival of new horses.

As for the extension of the grippe among young horses, I have

ascertained the following: The first cases of pharyngeal catarrh without general symptoms are found in the weakest subjects. It is only a little later, when the virulence of the microbian agent has been enhanced by several passages, that examples of transmission are observed in vigorous subjects. Then the manifestations increase, general phenomena are added to local symptoms, and the nervous determinations predominate.

The largest number of cases of the disease are noticed during humid, rigorous weather, with a great amount of wind or storm. Sundays and holidays, when the horses remain in the stables and when the temperature and ventilation are less supervised, are marked by a renewed outbreak of the disease. As a general rule, horses in the corners of the stables are the first to be attacked, because they are in the least favorable hygienic conditions in regard to light and air; they are also more exposed to currents of air. The number of cases of grippe under treatment is reduced according to the thoroughness of ventilation.

In recently built stables, complying with the legitimate exigencies of hygiene, the progress of the disease is slower and the malady continues to prevail for months; a long time elapses before all have been attacked.

It is known that the extension of the epidemic of 1889 was very slow in rural communities and that the inhabitants of scattered farms, if they did not remain free from disease, were attacked very late.

The horses which had been suffering from nasal or pharyngeal catarrh in the pasture were not attacked with grippe at the depot. To this fact must be attributed the transmission by leaps of the affection in the stables. The progress of the malady is more rapid among native horses which are brought to the stable directly after purchase from the grazier. If these subjects are placed too near each other, in a rather small and less airy stable, then we see them successively attacked in a very short time. In one case, in fourteen days all the animals of a certain stable had been infected, with the exception of a single animal which showed himself impervious to all contamination. Thus we observe a perfect accordance with human influenza. The denser the population and the more rapid the extension of the disease, the sooner it reaches its height and the more promptly it ceases its ravages. When no more cases were to be found in the larger cities (Feb-

ruary, 1890) new cases developed in the country for a long time.

As we have just specified, the number of cases of grippe is increased during humid and cold weather, especially when the animals remain in the stable for a few days. As far as differences in breed are concerned, from my observations I believe that the neural symptoms are more predominant among Irish horses, due to the sensitiveness of their nervous systems, than among native, more lymphatic subjects.

As to human influenza, it is established that middle age is more receptive than youth and old age. Individuals in full vital power, healthy and strong, are more frequently attacked. In this also there exists a remarkable concordance with contagious pneumonia of the horse.

Among colts I have observed a rapid and typical progress (for a few days only, an elevation of temperature), while the largest number of victims was among horses between 4 and 8 years of age.

In the epidemic of 1889-1890, as well as in that of 1918, relapses were comparatively rare. At the time of the first epidemic they occurred in the proportion of 8 per cent of the cases treated. The majority of doctors believe that they are due to reinfection. They have never observed among their numerous diseases a single new cast of influenza. Egon Frey (12) said that persons who had been affected with the disease in the summer of 1918 were generally spared during the autumn epidemic. From this it is reasonably concluded that the two epidemics depended upon an identical infection. Hamilton and Leonard (12) declared that in a boarding school where two epidemics had raged none of the pupils were attacked twice. More often an immunity against a new infaction existed for a comparatively long time. This is also true of the analogous disease of the horse. Of the 46,431 cases which were noticed from 1893 to 1913 among German army horses, only 0.04 per cent were taken ill a second time.

During the sojourn of young horses in the remount depot, relapses occurred very rarely. About 200 three-year-old horses were there two years. If they were attacked with contagious pneumonia the first year, as a rule none of them were attacked

the following year. An absolute immunity does not always exist for the rest of their lives, but certainly a partial immunity. A proof of this is found in the rudimentary progress of the affection among old horses. These suffered from contagious pleuropneumonia in their youth in the remount depot. In this respect, again, there is an analogy with human grippe.

In regard to the immunity against grippe Netter says: "It seems, nevertheless, that a first attack procures a relative immunity. The employees of the customhouse and postal service of London who were attacked in 1890 were attacked in 1892 in a proportion two times less than those who had escaped the first epidemic."

As I have said, I also have noticed a partial immunity from this disease among colts. By taking the temperatures of all the horses regularly, it results that the sudden fever of 40°C. more or less is maintained for only a short time with some subjects, to return to normal after twenty-four hours. This is observed in the absence of other pathological symptoms. A little later, sometimes even a few days, the horses again appeared infected and suffered from contagious pneumonia.

During the epidemic of 1889, 37½ per cent of the population were attacked with influenza. Of this number 2.67 per 1,000 succumbed, which places the total mortality at about 1 per 1,000.

The mortality is also low for contagious pneumonia if the affection is diagnosed early and the sick are isolated and placed in the most favorable hygienic conditions. Then the chances are great that the disease will progress normally and no complications will be produced.

The mortality is greatly reduced by the use of salvarsan; by its early utilization the losses have even fallen to 0.3 per cent. Just as in man, the majority of the fatal terminations are the consequences of disturbances of the respiratory and circulatory systems.

I have already emphasized that in recently built stables of the remount depot, presenting good hygienic conditions, particularly in regard to dimensions, ventilation and lighting (sunlight), the affection appeared only tardily, its progress was rather slow, and it was a long time before all the animals had been attacked.

In crowded stables, on the contrary, where the animals did not have the necessary amount of air, the affection appeared sooner; the progress was more rapid and it brought more severe pulmonary complications.

Before my arrival at the remount depot it was the custom to place the first horse taken ill in the box stalls of the stable. Many succumbed there in consequence of insufficiency of aeration and lighting. For such affections I consider boxes as tombs.

Cases were found in the stables of the field hospital units of the countries at war, and often where the horses were crowded together the mortality rate rose greatly. On the other hand, at the front, where the horses were in rustic conditions and thus toughened, the malady raged with only a very weak intensity.

These assertions are to be compared with those made concerning human grippe. Head (14) has shown that in a group of patients treated with windows open and in the cold the mortality was more than half lower than that computed for another group of patients cared for in closed, warm rooms. Frey (12) recommends not crowding severe cases of influenza in the hospitals in such a way as to transform them into mortuaries.

The crowding in hospitals of influenza patients with severe complications results in an augmentation of the virulence of the influenza germs; to this should be attributed the death of so many hospital attendants. Proportionally the number of victims is much less among physicians, although they may have been in contact with severe cases. The resistance of doctors must be explained by their intermittent stay in the open air.

Thus it is not doubtful that human influenza and contagious pneumonia of the horse are contagious diseases. The reasons upon which this opinion is based are identical for the two diseases: Typical symptomatic picture; acute progress, sometimes very acute, among men and horses living in crowded conditions (large cities, remount depots, trading stables); great depression follows a short attack of the disease; subsequent immunity, etc.

It must always be remembered that the infection often progresses in a very strange manner. Thus at the remount depot months sometimes passed before contagious pneumonia made its appearance in a stable situated between others where the af-

fection raged intensely. Moreover, the malady did not become extended to the horses of farmers near the depot, and yet a very large number brought fodder and feed there every day.

We also know that it has not been possible to transmit the disease experimentally. Likewise, infecting a stable by introducing some sick animals there has not succeeded at all. But as to this subject I have noticed a very remarkable fact. A sick horse with severe complications is placed in a stable where no case has been observed. The horses quartered in this stable remain well. A few months later when the depot no longer contains a single sick horse, a case of pneumonia is found in one of these nonreceptive horses, soon followed by 25 other cases.

As for the treatment, it is useful to emphasize the excellent effects of salvarsan. Thanks to this product, the disease has almost always a short and benign course, but its use, even very early, does not prevent the spread of the disease.

Experimentally, contagious pneumonia of the horse seems to be of an autochthonous nature. It may be provoked. For this it is enough to assemble young horses in a stable, ignoring hygienic conditions, especially lighting, aeration, ventilation, orientation, etc.

Upon the whole, I believe I have demonstrated that human influenza and contagious pneumonia of the horse are epidemiologically identical.

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CLINICAL AND CASE REPORTS

(Practitioners and others are invited to contribute to this department reports of unusual and interesting cases which may be helpful to others in the profession.)

A CASE OF TRUE OSSIFICATION OF THE AORTA IN A BOVINE [1]

By MIGUEL C. RUBINO

Technical Veterinary Inspector and Delegate to the Institute of Pathological Anatomy and Parasitology of the Veterinary School of Montevideo

THE PRESENT CASE as described, although it lacks practical interest, because we have not been able to obtain data on the subject and because it may furnish a new observation, may also be of importance in future investigations. At the same time the alterations that we describe not only on account of their nature but their extensions, we believe have not been reported in veterinary medicine.

This case was a grade Hereford, seven years of age, examined August 12, 1917, in the corrals at Durazno. Dr. Felipe Castañeda was present at the autopsy and supplied the following data:

The general condition of the animal was good, but on being exercised the animal became fatigued by the least exertion.

Autopsy: There was great resistance in the cutting of the carotid. Cardiac dilation was pronounced, particularly in the left venticle, which appeared flaccid, its very thin walls forming folds. The arterial aorta in the thoracic extension was rigid. This rigidity, though in a lesser degree, continued in the abdominal aorta and in the thoracic branches of the brachiocephalic. It was difficult to delimit definitely the extension of the infection.

The thoracic portion of the aorta, which is illustrated, was taken for study. At the beginning it was thought to be a very extensive calcification of the aorta, but it was observed that in the external tunic there were calcareous concretions, and a care-

[1] Translation by N. S. Mayo of an article from the Annals of the Veterinary School of the University of Montevideo, as reported in the *Revista Medicina Veterinaria*, the official organ of the Veterinary Medical Society of Uruguay.

Thoracic Portion of Aorta

ful examination demonstrated that we were dealing with a true ossification. The artery that was presented showed complete rigidity to pressure; only some small portion appeared relatively flexible. Throughout the external tunic was observed some small white concretion of a calcareous nature. The internal surface covered by a heavy lining presented a whitish red appearance and was seeded with small rigid projections, many of them pointed.

The trunk of the aorta was totally ossified, as much as was separated, and we found large rigid plates in contact with others, except in some portions there were observed small zones that were not ossified or that were ossified incompletely. In the internal surface could be clearly observed the process of ossification by plates, because the inner surface was transparent and one could see the orders of the plates, some covering parts of others.

A microscopical examination showed that ossification took place in the middle tunic, involving its whole thickness. The

structure of the tissue is analogous physiologically to planes of flat bones. The parts that go toward the external and internal surfaces is a layer of tissue compact and is united by a spongy tissue, osteoplasms having many zones of orientation in the Haversian system.

OBSTRUCTION OF THE DUODENUM OF A HORSE BY A BILIARY CALCULUS FOLLOWED BY RUPTURE OF THE STOMACH [1]

By ANTONIO DE BONI

Chief of Technical Work in Pathological Anatomy and Parasitology in the Veterinary School of Montevideo

TAKING INTO ACCOUNT the various causes that intervene in the production of rupture of the stomach of a horse, I believe this case will be of interest, and in the description I will refer only to the most important part of the autopsy, registry No. 54, March 9, 1918.

The body of a male horse eight years old was brought to the Pathological Anatomy Institute of the Veterinary School for autopsy. The only history was that the animal had suffered from severe colic.

On opening the abdominal cavity, watery, bloody fluid mixed with food and blood clots came. Over the peritoneum were particles of food and blood clots, particularly on the mesentery, where there were large quantities. The serous membranes of the intestines contained some petechiæ. The stomach presented a rupture of 20 centimeters in its largest curvature, extending nearly to the pylorus, the irregular borders festooned and infiltrated and with coagula. There were hemorrhagic affusions in the submucous coat and the muscular coat was retracted. The mucosa on the edges of the rupture was spotted with violet and along the edges was a blood infusion and particles of food.

A small quantity of food remained in the stomach; mixed with it was a rounded calculus of a green color.

On palpating the duodeneum a hard mass was felt and on opening this organ one could see a dark green calculus, in front of the opening of the bile and pancreatic ducts (ampolla Vader), closing the opening of the same. The intestine was contracted,

[1] Translated by N. S. Mayo from the *Revista Medicina Veterinaria*, official organ of the Veterinary Medical Society of Uruguay.

making a mass in which was the calculus. The intestinal mucosa was intact. In the folds of the pocket were small calculi with facets held in position by the large calculus.

The color of the liver was gray with a faint olive tint. The liver was greatly increased in volume and very hard and difficult to cut. It could not be broken with the finger. The appearance of the surface was netlike, with a light color. In the central part of each cell was a depression with a darker color. The lighter part could be recognized as interstitial tissue, greatly increased, forming a mesh, surrounding small islands of the parenchyma; this had a reddish color.

A microscopic examination revealed the classical lesions of chronic interstitial hepatitis.

CARBON TETRACHLORID EFFECTIVE AGAINST HOOKWORMS

A telegram has been received from Fiji reporting the successful treatment of more than 12,000 hookworm cases by carbon tetrachlorid with 90 per cent of cures with one dose, and the removal of 98 per cent of the worms. This method was tried first on dogs by Dr. Maurice C. Hall, of the United States Bureau of Animal Industry, who found that 0.3 c. c. of the drug for every kilogram of live weight expelled all the hookworms of those animals, a result he had never previously obtained by any other method of treatment, while it could be given after fasting in hard gelatin capsules without purgation being necessary. As the new drug is much less toxic and far cheaper than either thymol or oil of chenopodium, the last of which has given rise to a number of fatalities owing to the uncertain amount of the active principle in different samples, these are matters of great practical importance, and the remarkable success of the trial now reported will, if confirmed by further observations, prove a notable advance in dealing with this the most widespread health and labor-destroying scourge of immense areas of the world.—*Nature, London, No.* 2743, *v.* 109, *May* 27, 1922, *p.* 688.

Drs. Brock and Williams of Dallas, Texas, suffered a heavy loss when their canine hospital was burned to the ground on August 3, 1922.

ABSTRACTS

COMBINED CARBON DIOXIDE CONTENT OF BLOOD PLASMA IN THE HORSE. Nagaoki Ijichi. Jour. of Jap. Soc. of Vet. Science, vol. 1 (1922), no. 2, p. 76.

Studies in acidosis have recently made a remarkable progress and many valuable reports in connection with it have already been published. The subject is, as is widely known, of great interest both from a physiological and pathological point of view. It would be of no benefit, however, to describe here what acidosis is or what kinds of researches have hitherto been made on the subject. For three years I have devoted myself to the study of this subject with the view of finding out its practical value in veterinary science.

As a first step in my experiments, I have measured the CO_2 content of horse blood plasma by means of Van Slyke's method which was published in 1917 and is now generally recommended as the best method for diagnosing acidosis.

The blood used for my experiments was obtained from the jugular vein of the horse, care being taken in doing so not to allow the blood to come in contact with the air. According to the studies of Stadi and Van Slyke, it is not necessary, for the measurement of the CO_2 content, to saturate the venous blood with CO_2 at the same tension as in alveolar air, if the blood is drawn from a vein without any stasis. The venous blood employed in my experiments, therefore, is not subjected to any process which was to be carried out for the purpose of saturating the blood with CO_2.

The results obtained from a number of experiments are as follows:

(1) CO_2 content of blood-plasma in the normal horse.

Experiments in 30 horses (military) show that the CO_2 content of blood-plasma varies from 72.1 to 52.8 vol. %, that is, 62.6 vol. % on the average.

It must be noticed here that even in one and the same horse there is a difference between the CO_2 content measured in the morning and that obtained in the evening.

(2) CO_2 content of blood-plasma in the horse under abnormal conditions.

(a) Fatigue.

In horses which have taken a run of about 390 km. the CO_2 content has fallen below normal, all of them being in a condition of acidosis; the content of CO_2 in 8 tired horses averages 47.0 vol. % (53.2-38.1). Comparing the condition of some excessively tired horses with that of horses in a state of slight fatigue, I have found that the CO_2 content in blood-plasma, that is, the lowered alkaline reserve, decreases according to the degree of fatigue, so the blood-plasma of the most severely tired horse contains the least volume of CO_2.

(b) Podophyllitis, colic, influenza, pectoralis, and morbus maculosus.

In podophyllitis caused by severe exercise, the CO_2 content of blood plasma decreases considerably. An examination of the blood-plasma obtained from 7 horses suffering from an attack of podophyllitis showed that the CO_2 content averages 54.1 vol. %, which means that almost all of them were in a condition of acidosis.

It is no unusual matter to find acidosis is proved in a case of severe colic. According to my measurements, the CO_2 content of the blood-plasma taken from a horse which has been suffering from colic so severely that he died several hours later, was 32.7 vol. %.

In influenza pectoralis I have found that the CO_2 content of the blood-plasma is 27.1 vol. % in its severe form and 50.0 vol. % when mild.

The blood-plasma taken from a horse affected with morbus maculosus contains 45.7 vol. % of CO_2.

(3) Chlorine and phosgen gas poisoning.

In a room which was tightly shut up, a horse was exposed for 10 minutes to chlorine gas, the concentration of which was 0.2 vol. %. The CO_2 content of the blood-plasma taken from the animal decreased from 67.3% to 49.4%, and when the blood concentration increased to its maximum the symptom of pulmonary edema was most remarkable.

After 10 minutes exposure to 5 vol. % of phosgen gas, the CO_2 content of the blood-plasma of a horse suddenly decreased from 65.2% to 20.7%. The subject died in 30 minutes from the beginning of exposure.

(4) Decrease in the CO_2 content in the case of experimental acidosis.

The application of HCl or H_3PO_4 per os gives rise to a condition of acidosis.

1000 c.c. of 5% HCl solution was given to a horse every day by means of a stomach catheter. On the 3d day it was noticed that the CO_2 content decreased from 63.3% to 27.7%. The horse died of rupture of the stomach on the 4th day.

A 10% solution of H_3PO_4 was given per os to another horse, the doses being as follows: 1st day 500 c.c., 2d day 500 c.c. and 1,000 c.c., 3d day 1,500 c.c. On the last day, the CO_2 content of the blood plasma of the animal decreased from 68.3% to 30.0%.

By applying the Michaelis solution and a 1% solution of sodium bicarbonate, the CO_2 content of the blood plasma began to increase gradually and on the 9th day the horse recovered entirely from hyperalkalinity.

(5) Limited feeding.

A horse was fed only with water for 4 days and during the next three days with a daily allowance of 2 kg. of hay in addition.

No decrease of the CO_2 content was observed.

(6) CO_2 intoxication.

A horse was shut up in an almost air-tight chamber and a certain amount of CO_2 gas was allowed to flow into it. After 17 hours when the CO_2 concentration became 7.8%, the horse manifested the symptom of severe dispnœa, but there was no decrease in the CO_2 content of the blood plasma.—(*Author's Abstract.*)

ON THE IMMUNE SERUM AGAINST FOOT-AND-MOUTH DISEASE. Susumu Kuragano and Tatsuo Mogami. Jour. of Jap. Soc. of Vet. Science, vol. 1 (1922), no. 2, p. 111.

The following is a summary of this paper:—

1. Calves subjected to a natural infection proved to be immune against subcutaneous inoculation of virulent blood carried out 20 to 34 days after their recovery. To determine the duration of the immunity produced by the natural infection further investigations are necessary.

2. Subcutaneous inoculation of blood, saliva, vesicular content, and emulsion of spleen and lymphatic gland from an infected animal produced the disease in the calves experimented on. The minimum dose of virulent blood for a calf was 2 c.c.

3. The blood-serum taken from the animal recovered from one attack of this disease was found to have a protective action which can be intensified by repeated injections of the virulent blood (100, 500, 1,000 c.c.).

4. The period of incubation in this disease is sometimes as short as 24 hours. To test, therefore, the protective action of an immune serum, injection of serum first and of virus one or two days later is preferable to the injection of both at the same time.

5. The animals treated with the immune serum in a dose of 0.53 c.c. per kilo body-weight proved to be immune against injection of 10 c.c. of virulent blood carried out 3 weeks later. To determine the relation between the dose of serum and the duration of immunity further investigations are necessary.

HAIRLESS PIGS AND "RAIN-WATER"

The Research Station of the Canadian Health of Animals Branch, located at Agassiz, B. C., reports that in the Agassiz valley "hairless pigs" are only known to have occurred on one farm, and only during the occupancy of the present tenant. This man has been on the farm in question for two years, and during that time has lost five out of six litters from four sows. The surviving litter, born this spring, were decidedly weak and were only saved through careful nursing. The sow was one that came from the Experimental Farm last fall and consequently had not been on the place very long. Inquiry showed that the owner had been in the habit of giving his pigs rain-water and that no other water was used for the sows. In view of the fact that previous tenants could raise pigs on the farm in question, there appears to be no doubt that the peculiar mode of watering used by the present owner was responsible for the thyroid deficiency shown. The trouble is quite prevalent in some parts of the province, and the view is quite widely held that it has some connection with snow-water; judging from the effects resulting from the persistent use of rain-water, the snow-water theory may not be without some foundation. In affected districts the use of 5 to 10 drops of B. P. tincture of iodine twice a week to pregnant sows for the duration of pregnancy will ensure normal litters.

ARMY VETERINARY SERVICE

MEMORIAL TABLET AT WALTER REED HOSPITAL

In the new Army Medical School building, which is now in course of construction at Walter Reed General Hospital, Washington, D. C., a large bronze memorial tablet will be erected. Necessary funds for this purpose will be received by popular subscription, each subscription being limited to $1.00, and the list of subscribers restricted to those who saw service as offi-

cers, nurses or enlisted men of the Medical Department of the Army during the recent World War. Each subscriber will receive an official acknowledgment and receipt. Fellow-workers desiring to subscribe for this tablet which commemorates the service of their conrades who fell while engaged in Medical Department work, are invited to forward $1.00 to Lieut. Col. Paul C. Hutton, M. C., Office of the Surgeon General, Washington, D. C.

The placing of this tablet in this great building which is located in a great medical center, can not fail to prove of vital interest to the thousands of physicians, dentists, veterinarians, nurses and enlisted men who took part in the World War, and the fact that the cost of this bronze is to be borne exclusively by those who engaged in Medical Department activities, and further it is in memory of those who fell while so engaged, should incite the feeling that a contribution of one dollar toward this worthy object is more of a privilege than a duty.

ARMY MEDICAL SUPPLIES

As part of a comprehensive study under the direction of the Assistant Secretary of War, the Medical Department of the Army is undertaking a study of the sources from which the supplies which it procures and uses can be had. The Medical Department is not only concerned with the provision of the personnel necessary to the treatment of the sick, but is also charged with the supply of those things which are required by such personnel.

The armamentarium of modern medicine is exceedingly intricate, but without it the wonderful advances made in medicine are not available to the sick and injured, however skillful the personnel. The difficulties encountered in providing such elaborate equipment in time of war for the large number of new hospitals, infirmaries and first-aid stations necessary, and particularly in providing it at those institutions in the advance area, are manifest, and yet if the soldier is to be given the service that he is entitled to, it must be provided.

In a war of any magnitude the burden thrown upon industry for the production of these supplies is enormous. Any information that could be made available beforehand to industry as to type, number and quality would obviously be of great

advantage to industry in its plans. The Surgeon General is, therefore, side by side with his plans for the extension of the Officers' Reserve Corps, with his plans for instructing medical students through the R. O. T. C. in those duties of a medical officer which differ from those of the civilian physician, determining where the supplies needed by these officers may be had, should any grave emergency arise.

This effort is an attempt to do beforehand what was necessary after the declaration of war in the recent World War. It is done in recognition of the fact that the forces of the Medical Department, however numerous and skillful they may be, will be but half prepared without the necessary equipment. In brief, the program contemplates (1) that a careful determination shall be made, not only of the items needed, but of the quantity thereof. With a close liason established with industry, it is probable that often final decision as to the type of an article selected will be determined by the facilities of industry to produce it in large quantity. (2) The plan contemplates also a roster of personnel skilled in the manufacture, inspection and purchasing of the various commodity groups. It is desired to secure from industry itself men who are eligible and will accept reserve corps commissions with a view to their assignment in time of emergency to the procurement of the commodity in which they are specialists. It is purposed that upon these men reliance will be placed in time of peace for advice and assistance in the study of industrial facilities and that in time of war they will be assigned to the centers of industry or to Washington for procurement duty. (3) The plan further contemplates that a thorough study be made of the facilities of the country to produce the essential and important items of the supply table and to have on file in the Office of the Surgeon General such reports as will enable the immediate placing of contracts in the event of any national emergency.

In this work the Surgeon General realizes that he must rely upon industry itself, and it is hoped to secure definite and complete information from the manufacturers as to aid they can render. It is probable that in an emergency of any magnitude Congress would again establish control of raw materials, labor, transportation and installations, and the Medical Department expects that with the information to be obtained from the study on file it will be in a position to render great assistance to the

firms making medical supplies for the War Department. It can prevent the drafting of skilled labor, the taking of key men; it can assure the supply of material, of coal and of transportation, and thus obviate difficulties in the operation of the plant.

BRITISH ARMY COURSE OF INSTRUCTION

Special courses of instruction for members of the British Army Veterinary Corps at the Veterinary School at Aldershot are provided for in recent regulations. Classes of three months' duration are given for majors and captains. Other officers may attend by permission of the Director General, either for instruction or for work in the laboratories. There are also classes of similar duration for lieutenants on probation, classes of one month for veterinary officers of the Militia, classes of twelve days for veterinary officers of the Territorial Army, and six months' courses to train noncommissioned officers and men of the Veterinary Corps as laboratory attendants.

THE DOPING OF RACE HORSES

The "doping" of race-horses is the subject of a paper by Prof. F. Hendrickx, in the Belgian journal *Annales de Médecine Vétérinaire*. This practice he says has spread from American training stables to those of Europe. Doping is defined as the administration in any manner of drugs capable of provoking an artificial excitation which permits the animal to put forth an effort of such intensity as would be absolutely impossible under normal conditions. The practice is characterized as being "contrary to the rules of honor which alone should prevail in true sport."

Among the medicaments employed the author names heroin, strychnin, caffein, morphin, cocain and atropin. The action of these various drugs is discussed at length. As a means of detection he points out that the alkaloids may be found in the saliva and other discharges of a doped animal soon after administration, and he proposes that any horse whose saliva taken at the time of the race shows such an alkaloid on chemical examination should be considered as doped.

ASSOCIATION NEWS

AMERICAN VETERINARY MEDICAL ASSOCIATION

Proceedings of Fifty-ninth Annual Meeting, St. Louis, Mo., August 28 to September 1, 1922

MONDAY MORNING, AUGUST 28, 1922

General Session

The first session of the fifty-ninth annual meeting of the American Veterinary Medical Association convened at the Planters Hotel, St. Louis, Missouri, at 10:30 o'clock, President A. T. Kinsley presiding.

The invocation was delivered by the Rev. Dr. William Crow, of the Westminster Presbyterian Church, St. Louis.

President Kinsley: Next we will be favored by an address of welcome to this wonderful city in the Mississippi Valley by Mayor Kiel of St. Louis. (Applause.)

Address of Welcome

Mayor Kiel: Mr. Chairman, Ladies and Gentlemen: It is my pleasure to be here with you this morning. This is one part of the official duties of the chief executive that I like, because it enables me to get away from work a little, and then I have the opportunity of greeting and meeting such people as you. St. Louis is noted for its hospitality, and it is always glad to extend this hospitality to those who come within our borders. St. Louis has made considerable progress as a convention city, and we are proud of the fact that the delegates to the conventions come back. We are glad to impress you with the hospitality of St. Louis, because we want you to feel that you are among home people and among good citizenship.

There are many things about St. Louis that I might tell you about, but I am not going to infringe upon your time because I know that you have lots of things to do, and then after you do your work I know you want to play a little, and we have lots of playgrounds around St. Louis. I know that these men folks can find almost anything they want to attract them, and I know the ladies will see many things that will impress them. There was a time when I might have invited you to visit some of the industries of St. Louis that have now been discontinued, but of course you will find lots that will take their places.

When men and women congregate as you have done to exchange thoughts and ideas, you accomplish many good results. Your profession is one that many people think is becoming obsolete. That is not true. Just as much responsibility devolves

upon you today as at any other period in the history of this Nation. More attention is paid today to curing the ills of an animal than there ever was in the past, and it is just as important that you devote your time and your energy to doing that kind of work, because the day will never come when your profession will be obsolete so long as the red blood flows through the veins of the American people. There isn't any one who doesn't admire the dumb animal; there isn't any one who hasn't a kind feeling for the dumb animal.

Today we are paying more attention to a little eruption or a little sore on a horse's back than they did in my boyhood days. I remember when I was a lad, and when I used to drive a horse to pull the heavy dray, if there was a sore shoulder or something the matter with the horse, we would get a little axle grease and rub it over and expect that to cure it. Those days have gone by, because it is necessary for science to take its part in your profession the same as it does in any profession.

Again, we have an admiration and love for house animals. Twenty-five or thirty years ago if a pet dog got sick they would call in the police and shoot the dog. That was the best way to cure his ills. That isn't the case today. We have a little dog around our house, and that dog visits the veterinarian probably three or four times a year. I don't know whether there is anything the matter with the dog, but everybody feels better after he has been down there.

It is just as important to have your profession as it is to have any other profession or commercial business, because you meet a need of the community and are a necessity.

I know that the results of this convention will mean very much to you, because you can absorb knowledge from one another that you can't get out of a book. When people get together and discuss questions they eliminate friction. Here we are today right in the midst of a crisis—the railroad strike and the coal miners' strike—that has disorganized the entire Nation. Everybody, the innocent as well as the guilty, is suffering as a consequence of that difference of opinion, and a difference of opinion is all it is. There never was a problem so great that men couldn't get their heads together and settle it. There never will be a problem that can't be settled that way. We hoped that it could have been done three or four months ago, before the friction occurred, before this controversy originated. If men had yielded, if they had been in a reasonable attitude, the same thing could have been adjusted four months ago that will be adjusted within the next two or three weeks, possibly in a shorter time, because of the conditions of the country. The people who are dependent upon these commodities can't exist unless that difference of opinion is eradicated.

By this method of meeting here together, many of you

strangers, you become friends, you become acquaintances, you go away after having obtained knowledge that you couldn't get otherwise, and I congratulate you for being here.

I am glad you selected St. Louis for your meeting place. You have made no mistake. We are right in the heart of the Mississippi Valley. We are proud of our city. We like it. A great deal of civic pride will be found in St. Louis because everyone feels that he is a part of the big plan, a part of that machinery that makes things worth while.

We have many interesting places in St. Louis. I know you will spend a very interesting hour or two at our Zoological Gardens, where you will find every species of wild animal. This is an institution established by the people of St. Louis themselves. They impose upon themselves a tax of two cents upon every hundred dollars for the purpose of maintaining these Zoological Gardens. You will find some chimpanzees out there. One is named after me. I said after I was through being mayor I hoped he would succeed me, because he is a very bright young fellow. I want you to see him. The $200,000 that we spend there is well spent and enlightens the children and a lot of the older folks.

We also have the Municipal Theater in Forest Park. I am sorry you were not here thirty days ago. You would have observed one of the greatest productions ever placed upon the American stage. Community work. It isn't a commercial proposition; it is simply the getting together of a lot of talent of St. Louis people, and then the audiences come and witness the efforts and the good work of that talent, which played to more than half a million people last year.

I want you to know that you are here as our guests, the guests of the city of St. Louis. We want to make it pleasant for you; we want to extend you every courtesy; we want to send you home feeling satisfied that you came and with a desire in your hearts to come to St. Louis again. We are always glad to have you, and you are just as welcome as the flowers in May. (Applause.)

PRESIDENT KINSLEY: I am certain that I voice the sentiment of the entire assemblage when I say that we appreciate the remarks of Mayor Kiel. He who responds to the welcome address needs no formal introduction to this organization—Dr. Tait Butler. (Applause.)

RESPONSE TO ADDRESS OF WELCOME

DR. TAIT BUTLER (Memphis, Tenn.): Mr. President, Ladies and Gentlemen—and to you, *our* Mayor Kiel, for we are all loyal St. Louisians this morning—you who have so graciously and cordially welcomed our organization this morning, let me express as fervently as I can our most sincere thanks. The cordial greeting we have received from all assures us that our stay within

this city and our meeting here will be as pleasant and profitable as you have so generously wished.

But, my dear Mayor, this is no ordinary body of men and women that you have so hospitably taken into your home this morning, and this is no ordinary Association in its past record of service. This Association has passed beyond the youthful or formative stage and has achieved a splendid record of progress and service. For, gray as is my head, I am less than a year older than this Association, this being its fifty-ninth annual meeting.

At first its membership was confined to a few stalwart pioneers in the then young American veterinary profession, located in those cities near the Atlantic seaboard, New York, Boston and Philadelphia. The membership grew but slowly for many years and the territorial range of its influence was restricted to the Northeastern States. Even after 25 years, in 1887, when your humble servant became a member, only a scattering few west of the Allegheny Mountains had broken into the rather "close corporation" which up to that time had been maintained. In 1884 the first meeting (two meetings a year were then held) was held outside of New York, Boston and Philadelphia, in Cincinnati, Ohio. But not until 1890, or 32 years ago, and 27 years after the organization of the Association, was the conservatism of the organization broken down by a persistent effort on the part of a few western members and the meeting of that year secured for Chicago. That meeting really marks the beginning of the Association's national and international character and activities. Since then its membership has grown rapidly, gathered from all parts of the United States and Canada. And the range of its territorial influence is indicated by meetings held in Toronto and Ottawa on the north, New Orleans at the south, and in all the larger cities from New York on the Atlantic to San Francisco on the shores of the Pacific.

But I must not reminisce, for that is a sure sign and one of the weaknesses of advancing years, and none are old this morning. This morning, under your cheering words and genial radiance of hospitality, all are young, and this Association has renewed and added to its giant strength and dedicated its powers to a better and larger service with all the enthusiasm and irresistibility of youth.

But let me state that today you have welcomed the largest and probably the most influential organization of veterinarians the world has ever seen, the greatest any other Executive ever welcomed to his city.

Not alone in its splendid history of progress in service and scientific growth is this Association noteworthy. Its members, individually and collectively, and privately and officially, guard the health of 250 millions of farm animals and conserve thereby a property value which reaches around the incomprehensible amount of ten billion dollars.

But I am dealing in material things in such remarks, and I wish, therefore, to also call your attention, as modestly as I may, to the fact that the membership of this organization are also in no small or unimportant way the conservators of the health of all the 125 millions of people of the United States and Canada, in so far as affected by livestock and the consumption of livestock products. By the control of animal diseases, some of which are communicable to man, by the inspection of meat, dairy and other livestock products, not alone do veterinarians conserve the material wealth of these nations, but they also protect the health of every man, woman and child within the broad bounds of this North American continent, yea, and also of those of other countries, who are consuming our livestock products in increasing quantities.

But in conclusion permit me to state again that we accept your proffered hospitality of the great and splendid city of St. Louis, with humility and grateful appreciation. We are not unmindful of the material and historical greatness of the State and this magnificent metropolis. This State and city have given our profession and this Association many esteemed members who have served their State and their Nation valiantly for many years. We have read and committed to memory all of the hundred or more claims this city makes, I have no doubt accurately, to be or have "the largest in the world," including the largest horse and mule market, in which we are vitally interested; "the largest fur market," in which we are not interested just at this time; "the largest (bird) cage in the world" and the largest blow (pipe) factory in the United States.

To you, Sir, personally and as the Mayor of this great city, who have left your executive duties to come here to bid us welcome, and through you to the veterinarians and other citizens of St. Louis, we wish sincerely to tender our thanks for the splendid welcome you have given us this morning. We know we are going to have a good time while here, and we wish you and those you represent the fullest measure of the very best that this life affords.

PRESIDENT'S ADDRESS

President Kinsley delivered his address. It was published in the JOURNAL for September, 1922, page 596.

After announcements the meeting adjourned.

MONDAY AFTERNOON, AUGUST 28, 1922

GENERAL SESSION

The meeting was called to order at 1:35 p. m. by President Kinsley.

APPROVAL OF MINUTES

PRESIDENT KINSLEY: The first business is the presentation and adoption of the minutes of our last annual meeting.

SECRETARY MAYO: I herewith present a stenographic report of the proceedings as published in the official journal of the Association and recommend they be accepted.

(The motion was seconded and carried.)

REPORT OF EXECUTIVE BOARD

PRESIDENT KINSLEY: The next order of business is the report of the Executive Board.

DR. CASSIUS WAY (New York City): It is with a great deal of regret that the Executive Board have to report that Dr. Hilton is unable to be with us at this meeting on account of impaired health. The members of the Board have done me the especial honor and the compliment of asking that I serve as chairman for this meeting. We will endeavor to report to you from time to time the activities of the Board and present matters which should come before the Association for consideration.

It is a great misfortune to all of us that Dr. Hilton is unable to be with us. I recommend that this Association, through its Secretary, send a telegram to him extending the best wishes of the Association and the hope for a speedy and rapid recovery of his health.

From time to time there have been presented names of veterinarians from foreign countries for membership in this Association. At a meeting of the Executive Board in December in Chicago, the Secretary was instructed to secure data, catalogs, requirements for admission and requirements for graduation from various European and foreign schools. The reports that the Secretary has received have been considered by the Association with a recommendation that this matter be referred to the Committee on Intelligence and Education, and that they compile or assemble for the Association such data as will be necessary in reference to making recommendation of schools whose graduates may be eligible for membership in the Association.

There are some 150 or 160 applications for membership up to the present time. These will be presented by the Secretary.

DR. C. P. FITCH (St. Paul, Minn.): I think that some action by the Association should be taken in regard to the report, especially in relation to Dr. Hilton, and I therefore move that the Secretary be instructed to compile a telegram to Dr. Hilton expressing the views as given in the report.

ELECTION OF NEW MEMBERS

(The motion was seconded and carried.)

PRESIDENT KINSLEY: The next order of business is the election of new members.

SECRETARY MAYO: The following applications have been favorably recomended by the Executive Board:

J. E. Aghion, Sakha, Egypt.
A. L. Alton, Manitoba, Canada.
Mostre Arangoy, Havana, Cuba.
C. D. Arias, Marianao, Cuba.
W. E. Armstrong, Cumberland, England.
J. S. Barbee, Kansas City, Mo.
Edw. V. Beaumont, Kansas City, Mo.
J. S. Bengston, Chicago, Ill.
H. E. Biester, Champaign, Ill.
L. Bilikam, Tacoma, Wash.
H. J. Bird, Centerburg, Ohio.
J. A. Bogue, Lawrence, Kans.
R. R. Bolton, Burlington, Vt.
T. O. Booth, Oklahoma, Okla.
C. Bricault, Haverhill, Mass.
G. A. Clark, Toronto, Canada.
G. W. Clark, Yakima, Wash.
J. E. Cloud, San Diego, Calif.
I. M. Cashell, Leesburg, Va.
B. W. Coons, Lisbon, N. Dak.
T. M. Cockery, Argenta, Ill.
A. B. Crawford, Bethesda, Md.
C. I. Crawford, Overbrook, Kans.
D. W. Curtis, Breckenridge, Mich.
B. C. Davis, Carrollton, Mo.
H. B. Davis, Hartford, Conn.
C. F. DeLap, Springfield, Tenn.
D. E. Dufresne, Quebec, Canada.
H. C. Edewaard, Holland, Mich.
W. H. Erwin, Howell, Mich.
F. Etchegoyhen, Havana, Cuba.
R. W. Falk, Canton, S. Dak.
R. W. Finley, Rockford, Ill.
E. E. Flory, Aberdeen, S. Dak.
Harry J. Fry, Kalona, Iowa.
I. C. Gladish, Carlisle, Pa.
A. J. Gregg, Salina, Mich.
F. Hare, Nevada, Mo.
F. R. Harsch, Brownsville, Tex.
C. E. Hart, Kansas City, Mo.
A. Henriquez, Pinar del Rio, Cuba.
A. A. Hermann, Denver, Colo.
F. P. Hust, Jeersonville, N. Y.
A. C. Iduali, Havana, Cuba.
G. E. Jacobi, Ames, Iowa.
E. F. Jardine, British West Indies.
E. C. Jesperson, Ionia, Mich.
H. R. Kleinschmidt, Merrill, Wis.
L. L. Langland, Cambridge, Iowa.
J. B. Lentz, Amherst, Mass.
G. W. Lobach, Easton, Pa.
F. W. Lupfer, Galva, Ill.

J. H. Lynch, Fonda, Iowa.
H. M. McConnell, Independence, Mo.
J. P. McDonough, Richmond, Va.
J. T. McGraun, Trenton, N. J.
K. G. McKay, Colville, Wash.
A. Maurique, Mexico, D. F.
H. E. March, Cooperstown, N. Y.
F. H. Melvin, Kansas City, Mo.
A. K. Merriman, Williamsville, Ill.
John J. Mitchell, Lansing, Mich.
J. P. Mockford, Greenville, Tex.
Jos. C. Nullineaux, Hagerstown, Md.
C. C. Nickel, Nowata, Okla.
J. P. Niederauer, Pierre, S. Dak.
V. P. Norton, Wisconsin Rapids, Wis.
L. T. Oberheim, Elizabeth, Ill.
Z. A. Oviatt, Hubbard, Iowa.
I. W. Perry, Warren, Ill.
L. H. Phipps, Winnebago, Minn.
Jose del Pozo, Mexico, D. F.
H. A. Renor, Kearney, Nebr.
J. P. Rimstidt, Howell, Mich.
F. F. Saint, Calgary, Canada.
J. E. Sargeant, Fairbury, Ill.
J. W. Scheibler, Jr., Memphis, Tenn.
A. F. Schrage, Plymouth, Wis.
R. E. Simonsen, Marcus, Iowa.
R. W. Smith, Concord, N. H.
W. A. Smith, Sparland, Ill.
J. R. Sperry, Schofield Barracks, Honolulu, Hawaii.
F. L. Stevens, Portland, Me.
J. Stokes, Elmhurst, Ill.
G. E. Stanley, De Soto, Nebr.
John W. Taylor, Roodhouse, Ill.
L. W. Thiele, Galien, Mich.
E. G. Thorn, Kenosha, Wis.
G. W. Thurber, Loyal, Wis.
Harry Ticehurst, Tenafly, N. J.
George W. Todd, Fort Dodge, Iowa.
W. S. Tomlinson, Galesburg, Ill.
W. E. Turner, Lincoln, Ill.
C. F. Tuthill, Onsted, Mich.
C. C. Wang, Nanking, China.
Earl S. Warner, Canada, Ontario.
C. H. Wright, Jackson, Tenn.
R. P. Wiese, Carretson, S. Dak.
Henry Wild, Hartland, Wis.
H. F. Wilkins, Lewistown, Mont.
George B. Winch, George, Iowa.
R. S. Youmans, Lawrence, Mass.
W. B. Wise, Sheffield, Ill.
C. B. Weagley, Middletown, Md.
F. C. Shake, Hutsonville, Ill.
O. B. Gray, Williamsfield, Ill.
F. R. Smith, Kansas City, Kans.
H. Adams, Bellows Falls, Vt.
R. O. Biltz, Georgetown, Del.
J. A. McCampbell, Williamsfield, Ill.
G. M. Dorman, Sioux City, Iowa.
A. C. Etchison, Assumption, Ill.
H. A. Gastfield, Deerfield, Ill.

J. Patterson, Hedrick, Iowa.
A. H. Quin, Cedar Rapids, Iowa.
J. E. Warner, Waco, Tex.
A. K. Monroe.
T. W. Bowman.
W. D. Price.
W. F. McDougall.
C. W. J. Haworth, Camrose, Alberta, Canada.

On motion of Dr. E. P. Flower, Baton Rouge, La., seconded, the persons above named were elected to membership in the Association.

SECRETARY MAYO: With reference to the application of Charlie Mangrecock, of Haverhill, Mass., a graduate the Ecole de Médecine de Montreal in 1891, the Executive Board recommends that the rules be suspended and that he be elected to membership. This school was never recognized by the American Veterinary Association and is not in existence now. I would say that incidentally there are some very complimentary things regarding the doctor and his training.

DR. J. A. KIERNAN (Washington, D. C.): I move that the rules be suspended and that he be elected to membership in the Association.

(The motion was seconded and carried.)

MESSAGES OF GREETING

SECRETARY MAYO: I have a letter from Dr. W. H. Dalrymple of Baton Rouge, La., that I was requested by the Board to present. It is a personal letter that you will doubtless be interested in.

(Secretary Mayo read the letter.)

DR. KIERNAN: It is a matter of very deep regret that we learn that sickness has laid its heavy hand upon one of our most pre-eminent members, an Ex-President of this Association. We are all his friends, and everybody in the Association misses his congenial companionship. As a mark of respect to our Ex-President, I move that the Secretary be requested to send a telegram of good cheer to Dr. Dalrymple and ask that he come to the next meeting.

(The motion was seconded and carried unanimously.)

SECRETARY MAYO: I have one or two other messages that I will read.

"Havana, Cuba, August 28, 1922.

"Most cordial greetings and best success to your convention.

"B. J. CRESPO,

"Cuban National Association."

I suppose that most of you know that Dr. and Mrs. Blattenberg are the proud parents of a little daughter a few months old. (Applause.) This is from Dr. Blattenberg:

"Best wishes for most pleasant and profitable meeting. Unable to come. Wash out on line." (Laughter.)

PRESIDENT KINSLEY: Do you care to take any action regarding either of these telegrams?

Dr. E. L. QUITMAN (Chicago, Ill.): I move that a telegram from this Association be sent to the young lady congratulating her on accruing to such nice parents, as I know personally she has accrued.

(The motion was seconded and carried.)

REPORT OF EDITOR

PRESIDENT KINSLEY: We are ready for the report of our Editor, Dr. J. R. Mohler.

(Dr. Mohler presented his report as Editor, as follows:)

Report of the Editor of the Journal to the Executive Board

Volumes 13 and 14 (new series) of the JOURNAL, covering the year from October, 1921, to September, 1922, contained a total of 1,396 pages of reading matter, a monthly average of 116 pages. The contents comprised 101 papers on a wide range of subjects, 36 clinical and case reports, 80 abstracts of research papers (practically all foreign), 8 book reviews, 107 reports and notices of meetings of veterinary associations and other gatherings, 35 editorials, and numerous miscellaneous articles and items.

Although the quantity of material relating to general practice has been well maintained as compared with previous years, and we have made every effort to bring about a further increase, I feel that we are still not covering this field adequately. It is very difficult to get a good supply of papers and reports on subjects relating to practice. The research worker appreciates the importance of placing his results on record and is a fertile source of contributions to veterinary literature. The educator, too, as a rule is a ready writer. The veterinarian in the public service understands the value of the printed page as an aid to the efficiency of his work. But the practitioner, the most numerous class of all, is not given to much writing. He is anxious to read what others have written that will help him in his professional work, but he does not always realize that he can render a reciprocal service by putting into print the results of his experiences that may be helpful to others. If practitioners could be induced to furnish fragmentary notes on their cases or methods of practice, jotted down on a piece of note paper, little effort would be required and much benefit would result.

Our department of Clinical and Case Reports is intended to cater especially to the practitioners. It is for them to supply the bulk of the material. Special articles on problems of practice are also invited. Our Resident State Secretaries and the secretaries of State and local associations can assist greatly in increasing the supply of such papers and reports. Some of them are already doing this, and their cooperation is greatly appreciated.

With a view to stimulating a larger supply of material of a practical character I venture to repeat a suggestion made in my report to the Executive Board a year ago, but which was not acted upon. It is that small prizes be offered for brief essays on certain subjects which are announced in advance. Some disease or ailment of general interest should be chosen as a subject and announced, with an invitation for brief articles (not exceeding, say, 500 words) to be submited by a certain date (at least three months ahead),

cash prizes to be awarded to the best three, the prize-winning articles to be published. Prizes of $15, $10 and $5 are suggested, and the Subcommittee on JOURNAL should make the awards. The papers should present effective methods of treatment rather than describe diseases. I trust that this plan may be approved and put into operation.

Our deparment devoted to the Army Veterinary Service has dwindled to small proportions in recent months. Our confrères in the military service are invited to support this department with contributions of interest in their particular field.

In other respects the contents of the JOURNAL have been satisfactory in volume and of good quality on the whole. Several papers of outstanding excellence were published. The increasing extent to which our original articles are reprinted or abstracted in foreign journals is an undoubted influence in raising the standing of the American veterinary profession in the eyes of the scientific world.

Our acknowledgments and thanks are hereby tendered to all our collaborators who have furnished valuable assitance in making the JOURNAL a success.

The following comparison may be of interest in reference to the income received by the JOURNAL. From September 1, 1920, to August 31, 1921, the collections were $7,757.82 for advertising and $2,111.53 for subscriptions, or a total of $9,869.35. From September 1, 1921, to August 25, 1922, with similar rates obtaining for advertising and subscriptions, the JOURNAL received $8,317.16 for advertisements and $2,325.61 for subscriptions, or a total of $10,642.77. This shows an increase of $559.34 in collections for advertisements and $214.08 for subscriptions.

Dr. Jacob, our Treasurer, advises me that he has received this year from Secretary Mayo and myself for the JOURNAL account $21,728.90, as compared with $21,372.15 for last year and $12,748.24 for 1920.

Although the expense for advertising is being closely watched by advertisers, the JOURNAL has noted with gratification that most of the bills for this service are paid promptly, showing that business conditions are improving, which should be reflected in the veterinary profession.

All my records, bank book, check book, letter files, duplicate deposit slips, monthly statements from the bank, quarterly statements to the Executive Board, etc., were turned over to a qualified acountant for review, and his certificate of examination and audit is attached for your information. J. R. MOHLER, *Editor.*

(Applause.)

PRESIDENT KINSLEY: You have heard Dr. Mohler's report, a complete, comprehensive report. What is your pleasure?

DR. QUITMAN: I move that it be accepted.

(The motion was seconded and carried.)

REPORT OF SECRETARY

PRESIDENT KINSLEY: The next order of business is the report of the Secretary, Dr. Mayo.

(Secretary Mayo read his report, as follows:)

It is gratifying to report a gradual increase in membership, although members alone are not the measure of progress. It is the active interest of all the members and constructive work that counts.

There are about 4,185 members on the rolls at present. Seventy-one former members who had dropped from the Association have

been re-instated. Twenty-one members have died. Eight have resigned. There are about one hundred and seventy applications for membership.

I wish particularly to call your attention to the fact that a number of applications are being received from veterinarians in foreign countries and a recent letter from the Secretary of the Australian Veterinary Association stated that the American Veterinary Medical Association was considered the leading Veterinary Association in the world. We now have active members scattered all over the world. The extension of the influence of our association in foreign countries should be encouraged. I would recommend that a special committee be appointed to consider and report upon this subject at the next meeting.

The Special Committee on Membership composed of President Kinsley, Editor Mohler and the Secretary in making plans for getting new members also considered the matter of reinstating members who had been compelled to drop out during the war or for financial reasons. It was decided by the committee that a special dispensation should be made and that members who were warriors and who would have been dropped for non-payment of dues could be reinstated upon the payment of $5.00. The recommendation of the Committee on Membership was approved by the Executive Board as it was felt that it would be a very desirable plan in every way. As a result of this action more than 150 delinquent members have been reinstated, a number of them writing letters of thanks for the opportunity given them.

I would recommend that the By-Laws be changed so as to permit the Executive Board to make special arrangement for reinstatement of members who are back in their dues and also to provide for a few cases where members do not require the JOURNAL. Cases are frequently occurring where the Association is likely to lose members on account of some complication. This would be a practical arrangement for the Association in every way, and the following amendment to Article 7 of the By-Laws is proposed:

"Section 3.—The Executive Board may in exceptional cases make special arrangement for reinstatement and remission of dues."

Some years ago our Association had an Honor Roll. Those who had been active members of the Association for 25 years were placed on this Honor Roll and were not required to pay any dues. This condition prevailed before the Association published an Official JOURNAL. Later, at the time of the adoption of the present Constitution and By-Laws, the Honor Roll was eliminated, and all were placed on the same basis.

A number of the older members thought that this was not right and have dropped their membership in the Association. Whether it is desirable to make some sort of provision for these long time members, is for you to decide.

The expense of the Secretary's office for the past year may be classified as follows:

Printing and stationery	$908.10
Clerical help	835.81
Postage	355.18
Office supplies	5.05
Incidentals	4.18
Telegrams	32.21
Reporting Denver meeting	602.70
Traveling expenses	273.03
Emblems	429.75
Auditing Secretary's books	25.00
Buttons for St. Louis meeting	19.80

There is no question that the veterinary profession does not receive the publicity that it should, particularly with reference to the interests of the practitioner. At the present time campaigns of publicity are being carried out by various interests and a certain amount of time is often advertised to be dedicated to certain topics of interest to the public. The campaign of publicity for preserving the teeth has undoubtedly done a great deal of real good, so far as the public is concerned, and incidentally has brought the dental profession deserved publicity. Campaigns for purebred livestock have been successfully carried out. It has been a benefit for not only the average farmer and stockman, but also to the breeder of purebred stock. Could not a campaign for healthier livestock be carried out in cooperation with the breeders of the country? This would not only help the movement that is on foot to control tuberculosis and other transmissible diseases, but should include all diseases of animals, those that are due to faulty diet and lack of proper care. It is possible that some judicious advertising in some of the leading agricultural and livestock papers of the country might be of great benefit, not only to the livestock industry, but to our profession as well.

I would recommend that a committee be appointed to consider this question, particularly with a view to cooperating with the various Breeders Associations.

It is evident to all that the lines of demarcation that have existed between veterinary and human medicine are disappearing. The American Veterinary Medical Association, as representing the veterinary profession in America is being called upon more and more to take an active part in solving problems that effect medical science as a whole and also various scientific organizations whose work has a bearing on medicine—both the human and comparative.

The American Veterinary Medical Association should take an active part in all measures looking to a closer cooperation with those agencies working for the preservation of life, both human and animal, and I would recommend that a committee be appointed to prepare some plan for cooperation service between the A. V. M. A. and human medical and sanitary associations.

Some four years ago I recommended to the Association in my annual report that closer cooperation between the A. V. M. A. and State and local associations should be given special consideration and a committee was appointed. This committee presented an excellent report at the Columbus meeting, but they did not think the conditions warranted the adoption of a plan similar to that of the American Medical Association. During the past year this matter has again been presented to the Executive Board and President Kinsley has appointed a special committee that will report at this meeting. There is need of some definite organization in each State and Province to represent and look after the interest of the National Association. At present the only representation is the Resident Secretary and these are frequently changed.

At the last meeting of the Association an official automobile emblem was adopted. The price fixed by the Executive Board for this emblem was $1.25, postage paid. Five hundred seventy-three were purchased in the first order and about four hundred have been sold. This emblem is a very attractive one, and the price is very reasonable. Several orders have been received from non-members, but these orders have been returned.

The question of changing the date for the annual meeting of this Association has been raised by a number of members. At the present time the meeting comes at a period when many practitioners in the Central West are busy vaccinating hogs, and it is a period in their practice that they can not afford to neglect.

In addition to this, another objection that has been raised is whether the last of August is likely to be uncomfortably warm. Some members have suggested it would be more satisfactory to have the annual meeting the latter part of June. This is presented for your consideration.

In the past few years there have been a good many suggestions made to the Secretary by members of the Association, that programs should be made as practical as possible, and quite a good many have urged that a clinic be provided for.

This year, owing to the favorable location. it has been decided to see if it was practical to have a rather elaborate clinic. You will all recognize the difficulties in presenting a clinic where the attendance is so large, as it makes it difficult for but a few members to get any real value from the clinic. These problems have been considered by those in charge of the clinic, and it has been the endeavor to present a clinic in such a way that practically all those who attend can get the benefit of it.

On the other hand, some members have expressed the opinion that clinics and practical demonstrations are more properly within the sphere of local and State associations, and that the National Association meeting program should be made up largely of presentation and discussion of more general problems, that affect the profession as a whole, not only in America, but in other countries as well.

There is no question but what the program should include not only the latest scientific researches and also discussion of practical problems, and as a rule an endeavor has been made to present a well-balanced program along these lines.

This year an effort has been made to present a program in which clinics and practical problems predominate. With these facts and with the results of the present program before you, an expression of the opinion by the Association as the general plan to be followed for future programs, would be of great value to those upon whom the responsibility for program rests. It has been the earnest effort to present a program that will meet the needs and approval of a majority of the members of the Association.

I have notified the Executive Board that because of the pressure of other duties, I wish to retire as your Secretary. In severing my official connection, you will pardon me if I review briefly some phases of the progress of the Association during the past ten years.

The Association membership has increased from 1.800 to 4.100. Ten years ago the income of the Association just paid the running expenses. Now the Association has a reserve fund of more than $30.000.

Upon my recommendation, an official monthly journal was established that has proven a powerful factor in promoting the interests of the Association and our profession in this and other countries.

The influence of the American Veterinary Medical Association has increased greatly, not only in America, but in foreign countries. and I believe the A. V. M. A. is recognized as being the leading veterinary association in the world.

Some four years ago I presented. and the Association adopted a motion to combine the offices of Editor and Secretary and establish a fixed office where all the business activities of the Association should be centered. I am firmly of the opinion that no more progressive step can be taken at the present time. The need of a permanent centrally located office for carrying on the routine business of the Association is greater than ever before and should be put into effect at once.

The American Veterinary Medical Association has been one of my pet hobbies, and I have endeavored to promote the interests of the Association in every way possible in the thirty years I have

been a member, six years of which I have had the pleasure and honor of serving as your Secretary. I am proud to have had the opportunity of doing some constructive work for our Association and profession, and I shall always be ready to do anything in my power to help to make the A. V. M. A. bigger, better and more useful.

I wish to express my appreciation for the hearty cooperation and support to all the officers, committees and individual members, particularly to President Kinsley, who has worked so hard to make the work the past year and this meeting successful. I also take this opportunity to publicly express my thanks for the faithful and efficient services of my Secretary, Miss Apeland, who has done all the routine work of the Secretary's office.

N. S. MAYO.

PRESIDENT KINSLEY: What is your pleasure with the Secretary's report?

SECRETARY MAYO: It is customary to receive it and refer it to the Executive Board for consideration.

DR. A. H. BAKER (Chicago, Ill.): I move it be received and referred to the Executive Board.

(The motion was seconded and carried.)

DISCUSSION OF SECRETARY'S REPORT

DR. HAMLET MOORE (New Orleans, La.): There are several things in Dr. Mayo's report that call for considerable discussion. There is a roll of honor, and a man that had been in this Association twenty-five years was placed on the roll of honor, and then because the JOURNAL was included in the fee he was taken off that honor roll. Now to be born with a silver spoon in your mouth —and every one of the gentlemen might have been (I wasn't)— and have it yanked out is a pretty tough proposition. It seems to me that there ought to be some provision made whereby the men that have been placed on the honor roll could be placed on there with the fee for the JOURNAL subscribed.

PRESIDENT KINSLEY: There is no honor roll now.

DR. MOORE: I realize that, but it was abandoned because the JOURNAL was included in the fee. If you have been working for twenty-five years, honestly, intelligently and energetically, and the reward has been given you and then taken away, you wouldn't appreciate it very much. Do you remember how many members we had on that honor roll?

SECRETARY MAYO: I can't tell you offhand, but I think there is a matter that will be referred to the meeting in regard to changing the Constitution and By-Laws with reference to giving the Executive Board authority to provide for these few cases in another place. A majority of these old members prefer to be considered active members and go on. I see half a dozen here who don't want to be put on the honor list. There are a few, however (I don't believe over a half a dozen), that are hurt. They are old stand-bys that have been members of this Association for many years, and their feelings were hurt when the Constitution and By-Laws were changed, and they were put

back after being carried for some years on the honor roll, and they have dropped out of the Association. A little later I have a matter coming up that almost bears on this.

DR. MOORE: It was in the behalf of the few that had dropped their membership that I asked this question, and I don't think that this Association can afford to have a man drop his membership for a thing of that kind. It isn't a question of their being placed actively on the list; it is an honor to be on that honor roll; that is why it was termed an honor roll. It isn't a question of a few dollars that is really donated to them or they are spared from paying, and I believe there should be a provision whereby the members that have been dropped should be appealed to to restore their membership in this organization as members of the honor roll.

The emblem was mentioned in the report. The emblem is the national and authorized emblem of the Association, and I don't see where any nonmember should have an emblem of a recognized association if he is not a member. I think by all means that has been the proper course.

SECRETARY MAYO: This report will be referred to the Executive Board, and I think they will formulate recommendations on all the recommendations that I have made, and they will be presented separately to the association later on for their consideration, so there will be an opportunity to discuss them.

REPORT OF TREASURER

PRESIDENT KINSLEY: The next order of business is the report of the Treasurer, Dr. M. Jacob.

DR. M. JACOB (Knoxville, Tenn.): As is the usual custom, the Treasurer's report has been prepared in pamphlet form and has been distributed to the seats so that it will become available to all of you. I wish, however, to supplement the written report with a few remarks in order to bring out some points with reference to the financing of the Association which might be of interest to you.

The balance on August 4, 1922, was $33,313.68. The balance on August 4, 1921, was $27,341.36, showing a net gain for the year of $5,972.32. Of this balance, $470.56 applies to the Association Fund, $53.33 to the Relief Fund, $5,448.43 to the JOURNAL Fund. The total amount of interest collected during the past year was $1,222.49, showing a net gain other than from interest of $4,749.83.

As to our bond holding and par value, we have $27,000 worth of bonds, which cost $25,886.10.

Now as to some comparison regarding the gains of the different funds. For the year ending August 4, 1921, the Association Fund showed a gain of $47.31. On August 4, 1922, it showed a gain of $470.56 for the year. The Relief Fund on August 4,

1921, was $18.68. The gain for the past year was $53.33. For the JOURNAL Fund our gain for the year ending August 4, 1921, was $912.37, while our gain for the year ending August 4, 1922, was $5,448.43. This, I think, is an elegant showing for the management of the JOURNAL.

I believe the report shows very clearly that our financial status at the present time is very much healthier than it was a year ago. (Applause.)

(The Treasurer's formal report will be printed later.)

DR. H. P. HOSKINS (Detroit, Mich.): I move that the Treasurer's report be accepted and referred to the Audit Committee.

(The motion was seconded and carried.)

REPORTS OF COMMITTEES

PRESIDENT KINSLEY: The next order of business is the report of the Salmon Memorial Committee. I understand that committee is not yet ready to report. Following that is the report of the Special Committee on Closer Affiliation with State and Local Associations. If that committee is not ready I will call for the report of the Committee on Badge.

REPORT OF COMMITTEE ON BADGE

SECRETARY MAYO: Your Committee on Badge recommends that an official A. V. M. A. badge or button be adopted. Second, we recommend a design somewhat similar to the official automobile emblem—a crimson center with caduceus and superimposed "V" in gold. Surrounding the crimson center a white circular ring bearing in gold letters the words "American Veterinary Medical Association." A sketch of design is herewith submitted. If desired this design could be embossed on stationery.

DR. QUITMAN: Before moving the adoption of that report I want to comment on the diagram of that button. I believe it said it was to be in gold, did it not? That is in keeping with the automobile emblem, is it not?

SECRETARY MAYO: It is a little different from the automobile emblem in that there is a wider band of white around the crimson center, and in this band of white is put the caduceus with the superimposed "V."

DR. QUITMAN: I want to suggest that that "V" be enameled in some color, preferably white, because in gold in the same color as it is on the automobile emblem, after it turns a little bit, no one can make out that "V" unless he gets right down to it and studies it. I have been contemplating seriously taking my emblem off my machine because no one can see the letter "V," and they take it for a medical emblem, and I never cared to sail under false colors. That same change should also be made on the automobile emblem. That "V" should be in a color, pref-

erably, I think, white, because just as soon as it turns it is hard to pick out the "V" even when you know it is there.

PRESIDENT KINSLEY: Do you make that as a motion?

DR. QUITMAN: I move that we adopt Dr. Mayo's recommendation, and that the "V" be enameled in white.

SECRETARY MAYO: I don't know whether that can be done. There is a question of manufacture there that I couldn't decide.

DR. QUITMAN: It can be done because you have enameling on the bottom.

PRESIDENT KINSLEY: I should like to ask the Secretary, if this motion prevails, if it carries with it that the Secretary provide these emblems.

SECRETARY MAYO: No, it doesn't. This is just the report of the committee that was appointed to consider an emblem for a button for the Association, an official button or badge.

PRESIDENT KINSLEY: Dr. Quitman has moved, and it has been duly seconded, that this report be received and that the "V" on the emblem be enameled in white. It would seem that there is no instruction in obtaining these emblems, but that is the motion before the house.

DR. JOHN EAGLE: I don't see why that "V" should be changed. We had an emblem with a "V" and it showed up very nicely. I think if we put a white one there that it would simply bring out the "V." I don't think that would be right. This is the A. V. M. A. It is uniform and I don't see why you should want to bring out the "V."

SECRETARY MAYO: There is no inscription on here at all except the "V."

(The motion was put and lost.)

DR. CAHILL: I move that the report be adopted.

(The motion was seconded.)

DR. EAGLE: Dr. Quitman tells me that that emblem tarnishes, and there is no reason why that "V" should tarnish.

SECRETARY MAYO: It depends altogether on what it is made of, whether it will tarnish or not. This is brass, and after the lacquer wears off it will tarnish unless you polish it up. These can be made in gold plate and will cost in quantities about 15 cents each. The gold plate will not tarnish until the gold wears off, and you can get solid gold if you want to.

DR. HAMLET MOORE: How much will these cost in the gold for a button?

SECRETARY MAYO: I couldn't tell you what a gold button would cost, but these gold-plated ones would cost about 15 cents apiece.

DR. MOORE: The life of a gold-plated button would be several years.

(The motion was carried.)

REPORT OF SPECIAL COMMITTEE ON CLOSER AFFILIATION WITH STATE AND PROVINCIAL ASSOCIATIONS

PRESIDENT KINSLEY: The next order of business is one that I consider very important. It has to do with the recommendation on revision of our Constitution. I am very desirous that you get the import of this report. I call for Dr. McLeod, who is chairman of the Committee on Closer Affiliation with State and Local Associations.

(Dr. McLeod read the report, as follows:)

This committee was selected by President Kinsley to study plans suggested for reorganization, submitted to the Executive Board in Chicago. The plans and suggestions were offered by a committee representing the North Central Iowa Veterinary Association, which in brief had for its object the possibility of making the A. V. M. A. a more representative association.

1. It is the unanimous view of this committee that the Constitution and By-Laws be revised in order to assure a just and democratic representation of the members of the profession.

2. We believe that there should be an intimate relation established between this Association and the State and Provincial associations, and that representatives from the State and Provincial associations should constitute the governing body.

3. A number of State associations have voluntarily signified their approval of these plans by resolutions.

4. Therefore, we recommend that a special committee, consisting of the President of the Association and four other members, be immediately appointed to study the details of the plans herewith submitted, in conjunction with the Executive Board, and that this report shall be considered as a written notice to the Association of a proposed revision of the Constitution and By-Laws at the next annual meeting.

5. We further recommend that provision be made for the publication of the Constitution and By-Laws and distribution to each member, and that funds be appropriated to defray the necessary expenses of the committee.

J. H. MCLEOD, *Chairman.*
L. A. MERILLAT, *Secretary.*
CHARLES E. COTTON.

DR. J. H. MCLEOD (Charles City, Iowa): I move the adoption of this report.

DR. COTTON: I second the motion.

DR. F. TORRANCE (Ottawa, Canada): The report of this committee being as brief as it is, it is difficult to understand it, and I would be unwilling to commit the Association to amend the Constitution without understanding it a little further. I would like the President or the chairman of this committee to explain a little more in detail what it is proposed to do.

PRESIDENT KINSLEY: In this committee report the notice is given for the adoption one year hence, and this committee's findings in conjunction with the Executive Board will be published so that every member will have an opportunity of studying this prior to the next annual meeting when it is up for adoption.

DR. TORRANCE: I understand, then, that an affirmative vote does not commit us to adopt this.

PRESIDENT KINSLEY: Absolutely not. We are just accepting this report. Gentlemen, you understand that if this motion is carried you simply adopt the report of this committee, and that a future committee will be appointed to confer with the Executive Board and bring up the proposed revision for adoption one year hence.

(The motion was carried.)

REPORT OF COMMITTEE ON ANATOMICAL NOMENCLATURE

PRESIDENT KINSLEY: We will call for the report of the Committee on Anatomical Nomenclature. The report is in the hands of the Secretary.

(Secretary Mayo read the report of the committee, as follows:)

This report consists of three parts: I. A brief résumé of work done by previous committees. II. A statement of the present situation. III. Recommendations.

I. At the Toronto meeting in 1911 the Association ordered the appointment of a committee to revise our anatomical nomenclature. The duty of this committee was to prepare a uniform and workable terminology to replace the chaotic accumulation of names which had become an unbearable burden to instructors and students and a serious impediment to the interchange of ideas which involved the use of anatomical names. This committee found it necessary first to formulate the general principles which should govern the work of specific revision. The report embodying these principles was received at the Indianapolis meeting in 1912.

The committee was continued and at the New York meeting in 1913 presented a report which included the revised lists of names for the bones, joints, muscles and viscera. This report was received and published in the Proceedings of the year 1913. No expense account was presented by the committee.

The committee continued its labors and in 1914 the chairman forwarded to the Secretary of the Association for presentation at the New Orleans meeting the revised lists of names for the remaining structures. This meeting was not held.

The complete report was in the hands of the Secretary to be submitted at the Oakland meeting in 1915. It was accepted and referred to the Committee on Publication. The report was not published. What appeared in the Proceedings of the A. V. M. A. in the JOURNAL, pp. 636, 637, as the report of the Committee on Anatomical Nomenclature was merely the chairman's letter of transmittal, together with a few terms which were inadvertently omitted from previous lists. Evidently this was all that was actually presented to the Association. Dr. Newsom, a member of the committee, made an effort to have the actual report presented and acted upon, but without success. He gave notice that after its publication, presumably a year hence, a motion for its adoption would be made. Subsequently the chairman endeavored to have the report published, but without success; it had apparently disappeared.

On June 1, 1916, the committee sent to Secretary Haring for presentation at the Detroit meeting a report stating that they had been unable to make any further progress, and explained that they were in no way responsible for this unfortunate situation. The impasse was due to the fact that the terms presented in the preceding report had not been published as ordered by the Association. It is obvious that a matter of this kind can not be intelligently dealt with without publication. The committee therefore recommended that

the (preceding) report be printed and that the committee be continued and authorized to obtain the views of their colleagues in order that the whole matter might be put in final form for submission to the Association. On December 1 the chairman inquired of Secretary Merillat as to the status of the committee and its work. The reply was to the effect that the report apparently was not laid before the Detroit meeting, although it was duly signed and filed with the Secretary for presentation. There was no excuse for the failure to read this report, since it could be done in less than five minutes.

The report of the committee filed with the Secretary for the Kansas City meeting in 1917 quoted in toto the unread and unpublished report of the previous year and repeated the recommendations made therein (JOURNAL OF THE A. V. M. A., Vol. 52, p. 229). The executive board recommended that the Secretary be instructed to multigraph the report of the committee on anatomical nomenclature for distribution among anatomists of the veterinary colleges. This recommendation was adopted.

The new chairman of the committee (Dr. H. S. Murphey) wrote to the present and former chairman that he was unable to obtain the completed list of terms which had been filed by the original committee with the Secretary in 1914; as before stated, it seemed to have disappeared.

At the Philadelphia meeting in 1918 the committee reported little progress, due chiefly to the disappearance of the completed list of terms filed in 1914, and the consequent necessity of preparing another list. A brief history of the work was appended. The committee recommended (1) that the committee be continued; (2) that the provision regarding multigraphing of the report remain in force; (3) that the history of the work of the committee be published with this report. This report was received and the committee continued (JOURNAL OF THE A. V. M. A., November, 1918, and January, 1919, p. 464).

During the succeeding year the chairman prepared a new second list of terms which was almost identical with the list submitted by the original committee in 1914. Multigraph copies of this list were sent out to the veterinary anatomists as a referendum. This list was included in the report of the committee at the New Orleans meeting in 1919. In addition the committee moved (1) the adoption and publication of the terms by the Association, (2) that the committee be continued to prepare and submit a table of suggested English equivalents, together with such additions and corrections as are necessary to conform to the lists of the American Association of Anatomists, and that the Committee be directed to cooperate with the veterinary anatmosists of other English-speaking countries in the preparation of said lists of anatomical terms. The report was signed by three members of the committee. After some discussion, which was apparently due to the unusual action of the committee in including motions in their report instead of the usual procedure of making recommendations, the report was adopted (JOURNAL OF THE A. V. M. A., February, 1920, p. 541).

In spite of the foregoing action of the Association adopting the report, the second list of terms was not published.

At the Columbus meeting in 1920 the then chairman and one member presented a report, stating that the Executive Board had disapproved the adoption of the list of terms submitted and the publication of the list. The report contained two motions: A. That the committee be continued to prepare a table of English equivalents together with additions and corrections, and that the committee be directed to cooperate with the veterinary anatomists of other English-speaking countries. B. That the Latin terms previously submitted be adopted. This report was adopted.

The committee made no report at the Denver meeting in 1921. The present chairman was called upon to make a verbal statement and suggested the continuation of the committee, which was agreed to.

The committee desires to direct attention to some outstanding features of the preceding brief historical review.

1. The original committee of three completed in 1914 the work assigned to them by the Association in 1911. In justice to the other two members, I. E. Newsom and S. L. Stewart, the chairman, as the surviving member, feels that the Association should know that the committee was in no way derelict in its duty, but completed its task in as short a time as the magnitude and inherent difficulties of the work permitted. It involved the sifting of thousands of terms, study of related literature in several languages, and some laboratory investigations to settle controversial points. Furthermore the work of the committee had to be done very largely by correspondence.

2. The first action which effectually blocked the progress of the work was that of the Executive Board, which voted not to carry out the resolution passed by the Association that appropriated $300 for the use of the Committee on Nomenclature to publish its report and send copies to those interested thirty days before the next meeting. In this action the Executive Board undoubtedly arrogated powers which had no sanction in the Constitution or By-laws and thereby defeated the purpose of the Association embodied in the said resolution. The plea of lack of funds was beside the point. It is the business of an Executive Committee promptly to set aside funds specifically appropriated, precisely as a bank does relative to a certified check.

Another serious and unnecessary obstacle to progress consisted in the failure to publish in the Proceedings the report presented at the Oakland meeting. It was, of course, the expectation of the committee that all who were interested would have an opportunity to examine the lists of names and thus be enabled to criticize the work of the committee and vote intelligently upon it.

The statement of the chairman of the Committee on Nomenclature at the Columbus meeting that the Executive Board had disapproved the adoption of the list of terms and the publication of the list is an astounding one to those familiar with correct procedure in such cases.

II. The present situation is briefly as follows:

1. All of the anatomical terms in the lists prepared by the Committee on Nomenclature have been submitted to the anatomical teachers of the various colleges for their consideration.

2. These lists have been twice adopted and ordered published by the Association.

3. The first list, comprising about half of the terms, was published in the Proceedings of the A. V. M. A. for 1913. This list contains printer's and other errors, and omissions. Furthermore it is practically buried from the standpoint of utility. The second list is yet unpublished.

III. In view of the foregoing facts your committee respectfully makes the following recommendations:

1. That the committee be continued and that it be and hereby is authorized to edit the lists of terms in reports previously adopted, to publish said lists of terms as edited in book form, and to prepare for such publication a brief introductory statement.

2. That the Executive Board is hereby directed to conform to the terms of the preceding recommendation.

SEPTIMUS SISSON, *Chairman.*
F. W. CHAMBERLAIN.
MARK FRANCIS.
E. SUNDERVILLE.

DR. CAHILL: I move that the report be accepted and laid on the table.

(The motion was seconded by Dr. Hoskins.)

SECRETARY MAYO: For your information I would say that the list referred to in the report of this committee is in the hands of the Secretary. It is about two inches thick and consists entirely of anatomical names. It would be of interest only to teachers and students of anatomy. I am not criticizing this at all, for I believe this committee has done a splendid work and a very much needed work. I believe a limited edition of this ought to be published. We can't very well publish it in the official JOURNAL of the Association, because it will take up too many pages; it would kill the JOURNAL to attempt to put it in there. I think it would be very proper to publish this in pamphlet form. I don't believe it ought to be published in book form. If anyone wants to have it bound for preservation he could have it bound at his own expense. I do believe the Association should have this committee. I believe they have some further revisions on these anatomical names. I think these names should now be gone over for a final revision by the committee, and there should be a limited number published, and a definite amount should be appropriated for that purpose. We have no idea as to how many should be published. How many will be needed? Five hundred? A copy for each member of the Association? I confess that personally I don't feel qualified to say what should be done. Here is a long report of purely anatomical names that has a value to teachers and students of anatomy. It ought to be in shape for those who want it.

DR. EAGLE: There is only one question, I think, that comes up there. If this report is going to be laid on the table, that is going to kill it forever. The question rolls around in my mind, if this was not an important procedure, why in the world have they allowed it to go on from 1913 up to the present time, and allow these men to go to all the trouble and do all the work that they have done, and then come up here today and lay their work on the table? I think if we were going to kill that work we should have killed it in 1913 and stopped it. These men have put in their time and they have put it in gratis, as I understand it, with very little expense to the Association. If this doesn't do any one else any good but teachers, the work of these men should be appreciated enough to adopt the report and make a few copies of it at least.

DR. QUITMAN: I would like to ask, as a matter of information, inasmuch as Dr. Sisson is the chairman of that committee, does this report of these anatomical names differ materially from Sisson's Anatomy?

SECRETARY MAYO: I don't know.

DR. QUITMAN: I would imagine they would be in keeping with Dr. Sisson's ideas, and perhaps if a comparison were made

there would be no necessity for publishing the report. I have an idea that to adopt that report would be to certify Sisson's Anatomy as an anatomical verbiage for the profession. I fully agree with Dr. Eagle, that it would not be fair nor courteous to this committee to table this report, and I certainly think the Association should at least vote against tabling the report.

DR. C. A. CARY (Auburn, Ala.): I would like to tell the men who made this motion and seconded it to lay this on the table, that that kills it, and it ought to be left for the Association to decide in a separate motion. It is irregular to have a motion to accept and lay on the table in the same motion. It is not permissible by parliamentary usage. I would like to see a motion made to accept this, and then if you want to make a motion to lay it on the table, make that motion.

DR. CAHILL: It isn't my intention to discredit the work of this committee. Far be it from me to belittle their work. But I am anxious, and I think everybody else is anxious, that we don't see our anatomical nomenclature get into chaos—and it will soon be a hopeless chaos if this is going to be allowed to stand. If I am correctly informed—I may not be—this committee's work is not finished. I can see no sense in publishing such a vast amount of material which has no standing at this time until this committee's work is finished. If the majority of the representatives of the schools here say that they need that, I not only would be willing to withdraw my motion to table the report, but I would be pleased to see a limited number of these published if the veterinary schools want that done. My idea was simply to try to prevent this thing being thrown out in the JOURNAL or otherwise published to add to the confusion and chaos.

SECRETARY MAYO: I don't think anyone here is well enough posted on the work of this committee to say really what ought to be done with it. I think that the report of the committee ought to be received and the committee continued, and at the other meeting let them come before us. This is mostly criticism of what has happened before; but let them come before us and show us what the need is, and I feel sure that the Association will do what it thinks is right.

PRESIDENT KINSLEY: I would like to ask Dr. Cahill to amend that motion that we accept the report and the committee be continued.

(Dr. Cahill agreed to this, with the consent of the second. The motion was then put and carried.)

REPORT OF COMMITTEE ON INTERNATIONAL VETERINARY CONGRESS

PRESIDENT KINSLEY: Next I will call for the report of the Committee on International Veterinary Congress. Dr. Mohler is chairman of that committee. I believe Dr. A. Eichhorn is to make the report.

DR. A. EICHHORN: At the request of the committee I have visited various countries and have interviewed quite a number of veterinarians who have been previously interested in international congresses. The impression I have is that at the present time there is hardly an opportunity of organizing a congress and deciding upon a place where such a congress should be held. This condition primarily is due to the political and economic conditions in Europe, and it will take a considerable time before it will be possible to establish normal conditions or such situations which will enable the scientific organizations to get up and deliberate on problems which are of an international character. This condition is unfortunate and is probably primarily due to certain countries not desiring to enter into correspondence with alternative organizations of other countries. For this reason I believe that at the present time it is impossible for this country to issue an invitation to the various countries for the holding of such a congress in the United States. I therefore recommend, in agreement with the committee, that for the present time the idea should be given up until later when we might be in position to invite the veterinary organizations to come to the United States for an international gathering. (Applause.)

DR. V. A. MOORE: I move that the report be received and the committee continued.

(The motion was seconded and carried.)

REPORT REGARDING HORSE ASSOCIATION OF AMERICA

PRESIDENT KINSLEY: Next we will have the report of the representative on the Advisory Board of the Horse Association of America, Dr. G. A. Dick.

DR. G. A. DICK (Philadelphia, Pa.): The report is in the hands of the Secretary.

(Secretary Mayo read the report, as follows:)

As representative of the American Veterinary Medical Association on the Advisory Board of the Horse Association of America, I present the following report.

Last year the work of the Horse Association of America up to that time was presented quite fully. It was found that many lines of investigation had been completed, all of which were favorable to the horse. Among those were comparative figures on the cost of hauling heavy loads and light delivery packages by horses and automotive power; overhead expense on auto trucks standing idle; plowing, harrowing and seeding on large and small farms; investigations in the production of new horses, etc.

During the past year the Horse Association has been endeavoring to put this information into the hands of the users of horse and automotive power. They have also been making other extensive investigations and have been very active in promoting the use and production of horses.

Many new booklets, setting forth the advantages of the horse in various kinds of work, have been published and distributed where they will do the most good. To make this report complete, I can

not do better than quote from Mr. Wayne Dinsmore's recent address before the Wholesale Saddlery Association of the United States:

"We have reached, directly, with letters personally addressed, and with facts and figures bearing on their own problems of haulage and delivery, the principal city users of transportation. We have done this over and over again, sometimes by cities, sometimes by industries, nation wide, with the result that virtually all firms now know of our work and have had the opportunity to compare their own costs with those of others in similar lines. We have won the confidence of large concerns that have complete detailed records of horse costs and work done, and we are now securing the most valuable data ever made available in our investigations.

"Some increase in horse use in cities is already evident. Whether this will offset the losses in other places we can not definitely determine as yet. New York, Boston, Philadelphia and Chicago apparently show some gain in horse use in the last year, judging from the specific increases of which we have knowledge. In other places, where our work has been less intensive, a loss may show to offset this. I am perfectly frank with you in these matters, for I want you to realize that motor truck manufacturers are everlastingly on the alert with their advertising, their agencies and their salesmen. One well-known maker of electrics is now selling their trucks for $100 down (plus $495 when delivered) and the balance in 21 monthly installments, and is making a special drive to sell to bakeries, laundries, towel supply companies and others that have light delivery work.

"To offset this, we are showing what a horse will do, what he costs, and how slight the investment and depreciation on horses, harness and wagons is, in comparison to the same factors with trucks. We must continue to do this, vigorously and steadily, if we are to sell horse use to merchants and other city transportation users.

"Overconfidence in respect to truck competition will be fatal, for we have already had to contend with ordinances calculated to legislate horses and mules off the streets, and new schemes of this kind are continually being framed up by truck salesmen who hope to benefit therefrom.

"We have the advantages of lower investment cost, slower depreciation and less expense in maintenance and repair, but our opponents have the advantage of a high-power sales force, skilled in salesmanship and big enough financial profit on each sale to make them work like blazes to close each deal. It is necessary that we work without ceasing, if we are to make headway against their sophistry.

"We have secured in the past some excellent costs in horses versus motor trucks, and have now in progress investigations into horse costs which are being taken from the financial records of very large users of horses in city work. These figures will set at rest all question as to the life of horses, amounts of feed required and harness and wagon costs, all of which have been subject to question and dispute from motor truck interests.

"Other work now under way includes studies on the distance traveled per day by retail delivery horses, with number of stops made; miles traveled per day by teams hauling coal, sand and lumber, with tonnage moved; and especial studies of the type of horses which last longest in city work. We also have negotiations in progress which will bring a large group of transportation users into cooperation with us on a study of hauling and delivery costs, in which we will check distance covered, tonnage hauled, stops made, time standing still and speed maintained while traveling. This is work that is urgently needed, has never been done, and which will be extremely valuable in defining the horse zone and horse costs.

"The breeding of horses and mules is now increasing, but moves slowly, as there is a lack of sires suitable for use, and in many communities no one farmer or group of farmers can be persuaded to make the investment required to secure a good stallion or jack. There is a marked shortage of young animals in nearly all States.

"I recently received letters from 136 farm auctioneers, located in thirty-two separate States. I asked them specifically whether there were enough young horses (under 3) coming on for replacement needs, and 121, or 89 per cent, of those answering said 'No.' Wyoming was the only State from which all replies indicated that there were plenty of young horses coming on. Our work this season has been directed toward impressing on farmers the shortage of young horses and to stimulate breeding. Leaflet 57, entitled 'Will It Pay,' has reached more than 150,000 farmers in the principal horse and mule producing States in the last two months. They can not fail to be influenced by the facts set forth therein, and the reports we have had indicate that breeding has increased considerably.

"With a view to establishing still more direct contact with farmers, we are now securing the names and addresses of the three leading farmers in each township in each county, for every State. This will carry our campaign still closer to the farm users and producers of horses and mules.

"Driving horses have been practically eliminated from our cities by automobiles, but many farmers who own cars are coming back to the good old driving horse for all ordinary length trips. We have given especial attention to the development of riding facilities and this season surveyed and marked nearly 200 miles of bridle trails through Cook County Forest Preserves and over connecting roads in Cook and DuPage counties. No organized effort to develop riding as a national sport was ever made until we took up the work.

"The response has been most admirable. Our cooperation in Chicago from the Forest Preserve Commissioners, local riders and highway officials has been 100 per cent. Riders in other cities are requesting our services in developing similar riding facilities in their districts, and nation-wide publicity in news stories about horseback riding has been abundant this past month.

"In my judgment, we are just at the beginning of the launching of riding clubs, horse shows, polo associations and riding interests in general. I am confident that no part of our work will show greater results in the next few years than that devoted to popularizing this, the oldest and most exhilarating of all sports."

It is not necessary to say anything further on the activities of the Horse Association of America. There is no doubt that this Association has done the horse industry a world of good and is in a position to do still more. This will be recognized by the members of the American Veterinary Medical Association, and it is hoped it will again render active support and cooperation to the Horse Association of America.

G. A. DICK.

DR. QUITMAN: I move that the report be received and the committee continued.

(The motion was seconded by Dr. Hoskins.)

DR. BUTLER: For the last year I have been more or less familiar with the work of the Horse Association, through receiving regularly the matter for publication which they issue. I have been unable to use very much of their material because I believe it is unwisely, unfairly produced. We might as well recognize it now, because it is a certainty that the truck and tractor are factors in farm power and farm transportation;

they are not going to displace the horse. They are probably not going to lessen the number of horses used, but they are factors in farm transportation and we might as well recognize it.

The Horse Association in the material that it puts out is not satisfied in stating the case for the horse, which I admit is strong enough if fairly presented. They make the mistake of so many propagandists of knocking the other side of the proposition; of making garbled and unfair presentations, in my judgment, regarding the tractors and trucks. I accept the main facts in their propaganda as correct, and I believe that this Association ought to cooperate with them; but I believe they are lessening, very much lessening, the effectiveness of their propaganda because it is unfair, because they make the mistake of knocking the tractor and the truck; and therefore I wish that this Association, through its representatives, could carry a word to the Horse Association, that if they will make their stuff that they send out deal with boosting the horse, giving the correct facts about the horse, and not giving garbled, and what I believe unfair, facts about the tractor and the truck, their material will get ten times the publicity and would be infinitely more effective. I for one would like to have a lot of stuff they have sent out published, but it absolutely meant editing in order to play fair to the other interests which we represent, and I didn't have the time to do it.

I make this statement purely and absolutely in the interest of the horse. I believe they can be more effective in their propaganda if they will take the proper view of the thing, that the truck and the tractor are here to stay, that they are factors and well established factors, economic factors in farm power. But there is still a place for the horse; he still has his superiority in many fields, and he still is going to be used. Let us boost that; let us put out facts regarding that; let us give everything we can regarding that; but let us leave the other alone because we can't head it off.

DR. L. A. MERILLAT: I would like to ask Dr. Butler in what particular connection the Horse Association is unfair. I would like to ask details about it.

DR. BUTLER: I am unable to give that now, for I did not know this thing was going to come up. But if I remember right I think I recall one of our editors, one of our coworkers who is not prejudiced in favor of the horse as I am (but as a matter of fact he is fair) said that the report or an article sent out based upon a bulletin by the United States Department of Agriculture was unfair and didn't give the information as it would have appeared had the whole of the facts been given. I have had hundreds of dozens of them where I thought it would have been very much more effective if they had left out some of the stuff they had in there and stuck to their cause.

I find every time I knock a competitor I boost him and it lessens the effectiveness of the statement. That is the only case I can call your attention to definitely, but I think I can get you a number of others.

DR. QUITMAN: I don't know whether Dr. Butler's remarks have any influence on the vote or not. It is very evident that Dr. Tait Butler was never run over by a tractor as was our very good friend Dr. Merillat. You can see the difference. I want to say that I have read a great deal of the literature of the Horse Association of America. I am a member of the association, and I do not agree with Dr. Butler that they could carry out their work just as well by boosting the horse as they do by making the deadly comparisons. What Dr. Butler terms knocking is comparison, and from what I know—at least I have seen the conditions—I believe that the Horse Association of America can prove every statement that they have made derogatory to the motive power whether it is farm or city power. I believe they can prove every statement. I know personally of a great many of those statements that are coming true. They make a great many statements that I don't know anything about, but I have seen comparisons and parallels made, and I believe that they can prove them. I believe, too, that they are doing a great and a good work for the veterinary profession, and they certainly should receive the hearty cooperation of every member of this organization.

(The motion was carried.)

APPOINTMENT OF COMMITTEE ON REVISION OF CONSTITUTION

PRESIDENT KINSLEY: I wish at this time to nominate the committee relative to the revision of the Constitution as per adoption of the committee report of Dr. McLeod. The names are as follows: J. R. Mohler, Chairman, C. A. Cary, J. H. McLeod, L. A. Merillat, and A. T. Kinsley.

REPORT OF DELEGATE TO CUBAN MEDICAL CONGRESS

PRESIDENT KINSLEY: Next we will take up the report of the Delegate to the Cuban Medical Congress, Dr. Eichhorn.

DR. A. EICHHORN: First of all I desire to express my appreciation to the President for giving me the opportunity to attend the National Medical Congress of Cuba as a delegate representing the American Veterinary Medical Association. The Cuban Congress is held every three years and is comprised of six various branches of the medical profession. One of the sections is given over to the deliberations of the veterinarians, while the others are those of the other branches of the medical sciences. The general deliberations were held at the general session, whereas the matters relating to the branches were discussed in the various sessions. The general meetings were in session two days, at which time papers pertaining to all phases of veterinary

medicine were read and discussed. The papers were of the highest standard and the discussions indicated that great interest was shown in the various problems confronting the veterinarians of the Cuban Republic. The subjects were most varied and pertained to the control of infectious diseases as well as to the diagnosis, prevention and treatment of the infections. I do not intend at this time to enter into a report of the various subjects presented, as I have published a report in the JOURNAL OF THE AMERICAN VETERINARY MEDICAL ASSOCIATION relative to my attendance at the Congress.

There are approximately one hundred and thirty veterinarians in Cuba. Of this number about thirty are serving in the Army, twenty in the Bureau of Animal Industry, and the remainder either conduct private practice or serve municipal or other organizations. At the present time there is one veterinary college conducted in Cuba, this being a department of the University. The preliminary requirements for entrance into the College are the same as those required of the medical students, and from my meeting of the students and also recent graduates of the College, the standard is no doubt equivalent to those of other professions at the University.

The veterinarians in the Army are certainly to be congratulated for having succeeded in obtaining a distinct corps of that organization, being headed by a veterinarian. Furthermore, they have also a splendid laboratory with a well-trained staff of veterinarians, which not only is active in the routine laboratory work, but also produces the biological products not only for the prevention and treatment of the infections occurring among the army horses, but they also produce all the biological products used for the men in the military organizations of Cuba, such as typhoid vaccine, tetanus antitoxin, etc.

The Bureau of Animal Industry has not yet extended its activity corresponding to our organization in America. However, it is their aim to have suitable legislation enacted for such powers as will be necessary for their full control of the livestock on the Island. Dr. Crespo, who is the present chief of the organization, is very active and devotes all his time with the greatest energy toward that end.

The diseases which the practitioners are meeting are very much along the line of those occurring in the United States and Canada. During the discussions on tuberculosis I was asked why they met with cases of tuberculosis among the cattle which are imported to Cuba from the United States. That is a puzzling question, inasmuch as the native cattle of Cuba are practically free of tuberculosis. The shipments are tested by official veterinarians in the United States and in a retest it is found that a considerable number of the imported animals are affected with tuberculosis. It was, of course, difficult for me to explain the situation, and naturally the veterinarians are very

suspicious whether the testing in the United States is conducted with such care as would insure the importation of cattle free from the disease.

The social side of the Congress was also given splendid attention. Many foreign delegates attended, among these being the dean of the faculty of the Paris University, and the nephew of Pasteur, besides also delegates from the various South American countries. This tended to give the Congress somewhat of an international character. Among the social functions given was a reception for the President of the Republic, the President of the Congress, and many other entertainments which made the Congress a wonderful success from the social point of view.

Your delegate was shown the utmost hospitality by the Cubans, and was elected an honorary member of the Cuban National Veterinary Association. It is indeed gratifying that the initial step has been taken by the Cuban veterinarians toward establishing closer relation between the veterinary professions of the two neighboring republics, and it is hoped that this relation will be fostered in the future and that our Association will not lose the opportunity of inviting delegates from Cuba to attend our meetings. (Applause.)

(It was moved by Dr. Eagle and seconded by Dr. Quitman that the report be adopted.)

SECRETARY MAYO: On behalf of the American Veterinary Medical Association I extended an official invitation to the Republic of Cuba and also to the Republic of Mexico, asking them to send representatives to this meeting. Unfortunately, in both Cuba and Mexico the governments have had to retrench in the last few months in their economic and financial expenditures to such an extent that I don't think they felt they could do it.

(The motion was carried.)

REPORT OF REPRESENTATIVE ON NATIONAL RESEARCH COUNCIL

PRESIDENT KINSLEY: At this time we will call for the report of the representative on the American Research Council, Dr. L. W. Goss.

(Dr. Goss read the report, as follows:)

The National Research Council was established in 1916. The World War was the stimulus for its origin. In 1918 by an executive order of the President of the United States it was invited to reorganize as a peace-time organization which might stimulate research by increasing the cooperation and reducing duplication in research work.

The membership consists of representatives of the large scientific and technical associations of America. There are over forty such societies represented in the council. The secretary is the only permanent office. It is now held by Vernon Kellogg. The membership at present is about two hundred and fifty, divided among thirteen divisions. Seven of these are called divisions of science and technology, which devote their activities to the following fields: Mathematics

and astronomy, engineering, chemistry, geology and geography, medical sciences, biology and agriculture, anthropology and psychology. The six other divisions are relation divisions of the council as follows: Federal, foreign, States, and educational relations, research extension and research information service. These groups are subdivided into about eighty committees.

The Council is not an organization to carry on research work, but devotes its time and energy to getting together the workers and encouraging cooperation, assisting in the obtaining of support and acting in an advisory manner to research.

The funds for maintenance come from private and corporate benefactors. The Carnegie Corporation and the Rockefeller Foundation have contributed several hundred thousand dollars for current expenses. Various industrial concerns have contributed funds for special problems. The National Research Council is a place where such benefactors may place their funds and feel that they will be spent to the best advantage for research.

In 1921 a place was made in the Division of Medical Science for a representative of the American Veterinary Medical Association. The writer was appointed by the President of the A. V. M. A., the approval occurring shortly before the annual meeting at Washington in April. During the following year a survey of the experiment stations of the United States was made in an effort to determine what projects were under way and the amount of money allotted to each. It shows in a general way the projects and the available funds. There are some States from which reports were not available. The appropriated funds do not indicate the true expenditures, as they include salaries of the men in some cases, while in others the salaries are excluded. There are some States showing no funds for projects, nevertheless they are doing considerable work upon certain problems.

It is hoped that the following will be of assistance to those who are working on a project, by showing them where work is being done in their particular field.

Research Work at the Experiment Stations of the United States

Project	States	Funds
Abortion	B. A. I.	$25,000
	Michigan	13,000
	California	12,970
	Illinois	10,000
	Minnesota	8,085
	Oregon	5,000
	Kansas	5,000
	Missouri	3,500
	New York	3,500
	Arkansas	1,050
	Colorado	1,000
	Wyoming	875
	Wisconsin	500
	Pennsylvania	?
	Massachusetts	?
	Ohio	200
	Total	$89,680
Anthrax	B. A. I.	$475
	Louisiana	250
	Total	$725

Project	States	Funds
Bacillus necrophorus	Wyoming	$250
Bighead of sheep	Texas	?
Biological investigations	B. A. I.	7,525
Botulinus	Illinois	15,000
Bovisepticus	Pennsylvania	?
Diseases of animals:		
Diseases of swine	Colorado	$2,600
	North Dakota	2,000
	New York	2,000
	California	1,000
	Total	$7,000
Obscure diseases	Minnesota	$6,225
	Nevada	6,100
	Washington	6,000
	Texas	?
	Total	$18,325
Diseases of poultry:		
Roup, chicken pox	California	$2,700
Miscellaneous poultry diseases	California	6,317
Roup, white diarrhea	Delaware	1,000
Gapes in chickens	West Virginia	?
Poultry diseases	Kansas	500
Tapeworm of chickens	Kansas	100
Roup	Kansas	850
Poultry diseases	Michigan	2,100
Chicken pox, roup	New Jersey	2,000
Blackhead in turkeys	Rhode Island	2,000
Diseases of fowls	B. A. I.	1,575
White diarrhea	Ohio	?
Typhoid, white diarrhea	Rhode Island	2,000
White diarrhea	Massachusetts	?
Blackhead in turkeys	Connecticut	?
Tumors, diarrhea, blackhead, drugs, climate, anatomy, physiology, nutrition	North Carolina	5,000
	Total	$26,142
Forage poisoning	B. A. I.	$3,050
	Colorado	500
	Total	$3,550
Goiter in calves	Wisconsin	$200
	Ohio	?
Hog cholera	B. A. I.	$25,500
	Minnesota	3,934
	North Dakota	2,500
	Total	$31,934
Infectious anemia	North Dakota	$3,000
	Texas	?
	Wyoming	875
	Total	$3,875
Johne's disease	Wisconsin	$200
Lungworms in calves	West Virginia	?
Meningitis	New York	$500

Project	States	Funds
Parasites	B. A. I.	$30,100
	Kansas	1,300
	Louisiana	250
	Pennsylvania	?
	West Virginia	?
	Total	$31,350
Poisonous plants:		
Vegetable poisonings	Nevada	$8,550
	B. A. I.	15,000
	Wyoming	200
	Total	$23,750
Pyemic arthritis	Minnesota	$450
Sheep losses in feed lots	Colorado	$10,000
Rabies	B. A. I.	$1,575
Tuberculosis	B. A. I.	$12,200
	California	3,000
	Minnesota	1,185
	Illinois	500
	Total	$16,885

The above does not take into consideration the valuable researches under way at the Rockefeller Foundation for the investigation of diseases of animals, where Dr. Theobald Smith has a corps of workers who are doing some excellent work, as past reports have shown. In addition a few of the biological houses are also doing some research.

There has been a general feeling that more men should be encouraged to enter the teaching profession. This has brought about a gift of $100,000 a year for a period of five years by the Rockefeller Foundation and the General Education Board. This money is to be used for teaching fellowships. They are to be given to men who hold an M. D. or Ph. D. or the equivalent. The above would imply that it is possible for a man who has had premedical work and the degree of D. V. M. to acquire a fellowship provided he can meet the other requirements.

It is hoped that the support and approval by the National Research Council will be a stimulus which will result in greater appropriation and the betterment of veterinary education.

A glance at the survey of the experiment stations shows that the abortion project is the one which is receiving the greatest attention. However, several States which contain large numbers of cattle are allotting very small sums to the work. This condition makes it clear that greater appreciation for research in this disease is still needed in some States.

By the activity of Dr. C. P. Fitch, Chairman of the Abortion Committee, with the Division of Biology and Agriculture, and a request from the writer to the Division of Medical Sciences for the appointment of a joint committee on abortion, the following were appointed: Dr. E. D. Ball of the United States Department of Agriculture; Dr. C. P. Fitch, and the writer as chairman. This committee will meet in the near future and formulate plans by which it is hoped that more funds will be made available for this work and that the cooperation between the workers may be increased.

It is desired that interested persons communicate with the committee with their suggestions relative to ways and means for more liberal support.

The manner of the organization of the National Research Council is so far-reaching that it will bring together many forces which can

only result in great benefit to all associations which are connected with it. LEONARD W. GOSS.

On motion of Dr. V. A. Moore, seconded by Dr. Hoskins, it was voted that the report be received.

REPORT OF COMMITTEE ON NARCOTIC LAW REVISION

PRESIDENT KINSLEY: The next order we will take up is the report of the Commitee on Narcotic Law Revision. Dr. J. P. Turner is chairman of the committee, and the report is in the hands of the Secretary.

(Secretary Mayo read the report, as follows:)

On March 2, 1922, your committee, in conjunction with similar committees of the American Medical Association and the National Dental Association and other committees representing pharmacists, and representatives of trades and industries supplying these professions with narcotics, met at the New York Academy of Medicine to formulate a uniform law, based on the Federal Harrison Narcotic Act, which should be used in the various States of the Union. Dr. Haven Emerson presided.

The conference decided to follow the Harrison Act so far as possible in framing a uniform State law.

A motion to prevent duplication of records was carried.

It was further agreed that no State should adopt regulations in conflict with the Harrison Act.

The subject of the treatment and care of drug addicts was considered as requiring additional legislation not within the scope of the act now being formulated, and the conference was of the opinion that the consideration of administrative methods in the treatment of drug addiction did not come within the scope of its work at the present time.

The conference further agreed that in the enforcement of any State narcotic control law the act should specifically state which administrative body of the State should enforce the law.

Your committee made a strenuous effort to get the annual tax of $3 under the Harrison Antinarcotic Act reduced to $1, by means of a motion of the conference, but did not succeed. We were successful in the matter of not having the model State law created as a revenue act, thus saving the practicing veterinarian from paying another tax.

Another feature of the proposed State law was a paragraph making it mandatory for the State licensing board to revoke a practitioner's license when convicted of violation of the Antinarcotic Act. We opposed this provision, as many veterinarians might be convicted of some slight technical offense, such as failure to keep his narcotic blank books properly posted, and be haled into court by some overzealous inspector. Upon our opposition the word "may" was inserted in the proposed act, instead of the word "shall," as relating to the revocation of licenses by State boards upon the conviction of a practitioner by the courts.

It was the sense of the meeting that such revocation by any board of examiners should not occur for a mere technical violation of a State antinarcotic law, but should be held as a punishment for repeated wilful violations, and convictions under this law.

The sense of the conference was that a committee of five be appointed to draft a model State law, and that the various professions and industries should advise them by written suggestion, but that the Harrison Antinarcotic law should be generally followed as a model.

After some further discussion as to amendments to the Harrison law, relative to the dispensing of codein and morphin, the conference adjourned. **J. P. TURNER, *Chairman.***

Dr. Flower moved that the report be adopted, and the motion was seconded.

DR. QUITMAN: I can't get the idea of adopting this report. We can accept it. There is no suggestion in it particularly that we are to be guided by, consqeuently I can not see any good reason for adopting it.

PRESIDENT KINSLEY: If the report is adopted the committee is discharged.

DR. QUITMAN: I believe that committee should insist on deleting apomorphin hydrochlorid. I think that should be separated from the narcotic regulation, because it would be utterly impossible, I believe, for any human being ever to become addicted to apomorphin hydrochlorid, and of all narcotics now used that is the one that is most used, and it is a good deal of trouble to keep track of every dose that we administer, particularly in the small-animal practice. It seems to me if this committee had done anything worth while they should have gotten this one thing. I can't see that they have made any suggestion worth while adopting.

DR. FLOWER: I will withdraw my motion and substitute the word "receive" for "adopt."

PRESIDENT KINSLEY: Dr. Flower withdraws his motion and places a new motion that the committee report be received and that the committee be continued.

(The motion was carried.)

DR. QUITMAN: Is it in order to make a motion or to suggest to this committee that inasmuch as they stand continued they lend their efforts to try to have the apomorphin hydrochlorid deleted from the prescribed narcotic list? If so, I will make a motion that the committee be instructed to work with that end in view.

PRESIDENT KINSLEY: I believe that is perfectly in order.

(The motion was seconded and carried.)

REPORT OF EXECUTIVE BOARD

PRESIDENT KINSLEY: Dr. Mayo will make a short report from the Executive Board at this time.

DR. MAYO: The Executive Board recommends that the resignations of Dr. R. P. Lyman of East Lansing, Michigan; Dr. J. O. Greeson of Kokomo, Indiana, and Dr. W. J. McKinney of Brooklyn, New York, be accepted.

(On motion of Dr. Quitman, seconded, the report was adopted.)

DR. MAYO: The Executive Board also recommends that the resignation of Dr. S. H. Burnett of Denver, Colorado, be not accepted, but that in view of his distinguished services to the

veterinary profession he be continued on the roll of the Association.

(On motion of Dr. Hoskins, seconded, the recommendation was adopted.)

DR. MAYO: The Board also recommends that Dr. H. Nunn of Corvallis, Oregon, be carried on the roll. Dr. Nunn is in a State hospital at Corvallis, evidently suffering from a mental trouble. When I learned this I immediately made inquiry to find if he was in need of relief. The directors of the hospital said he was not, that he was receiving all the treatment that could be utilized. The Doctor writes occasionally, and he enjoys receiving the JOURNAL.

(On motion of Dr. Hoskins, seconded by Dr. V. A. Moore, the recommendation was adopted.)

REPORT OF COMMITTEE ON LEGISLATION

PRESIDENT KINSLEY: We will have the report of the Committee on Legislation at this time.

(Secretary Mayo read the report, as follows:)

The following is a résumé of legislation by the Sixty-seventh Congress, second session, affecting the Veterinary Service of the Army:

House Bill 10871, which limits the total number of officers and enlisted men of the Regular Army, as passed by the House of Representatives, provided for not to exceed 109 commissioned officers of the Veterinary Corps. As this bill passed the Senate it provided for 144 commissioned officers of the Veterinary Corps. In conference the representatives of the House and Senate agreed upon 126 officers, those in excess of this number to be eliminated by December 31, 1922, under the following procedures, viz: Normal retirement at 64 years of age; retirement at the request of an officer after 30 years' service; retirement for physical disability incurred in the line of duty, all of which give the officer retired three-quarters of his present pay; and elimination by Class B as provided under paragraph 24 of the act approved June 4, 1920, which separates from the service officers who are below par in efficiency, with one year's pay. Officers remaining surplus after the operation of these methods will be selected out by a board of general officers convened in Washington for this purpose. It is provided that all officers having less than 10 years' commissioned service in the Regular Army shall be discharged with one year's pay.

The following quotations from the statute cover these matters:

"*Provided further*, That officers in excess of the numbers authorized herein and not removed from the active list by other means shall be disposed of as follows: Those of the Medical Department and chaplains shall, prior to January 1, 1923, be eliminated from the active list as hereinafter provided. * * * Officers selected for elimination of less than ten years' commissioned service may, upon recommendation of the board herein provided for, be discharged with one year's pay. * * * *Provided further*, That commissioned service for the purposes of this act shall include only active commissioned service in the Army performed while under appointment from the United States Government whether in the Regular, provisional, or temporary forces.

"*Provided further*, That any officer of less than ten years' commissioned service but of more than twenty years' service accredited

toward retirement or for increased pay for length of service may, in lieu of discharge with one year's pay as hereinbefore provided, if he so elects, be appointed a warrant officer and carried as an additional number in that grade; or he may, if he so elects, be retired with the rank of warrant officer with pay at the rate of 2 per centum of the pay of a warrant officer multiplied by the number of years of such accredited service; *Provided further*, That the Secretary of War shall convene a board of five general officers which may include retired officers, whose call to active duty for this purpose is hereby authorized, which board, under regulations prescribed by the Secretary of War, shall recommend to the President the officers to be eliminated from the active list under the provisions of this act."

All officers of the Veterinary Corps, Regular Army, have less than 10 years' commissioned service as it is defined in this act, since none was commissioned prior to the act approved June 3, 1916. Consequently all veterinary officers of the Regular Army who came into the service subsequent to 1912 who are selected out will receive one year's pay. Those who entered the service prior to 1912 may take advantage of a choice of accepting one year's pay, of being appointed a warrant officer and carried as an additional number in that grade, or of being retired with the rank of a warrant officer with pay at the rate of 2 per centum of the pay of a warrant officer multiplied by the number of years of such accredited service. The monthly base pay of a warrant officer of the Army is $148 per month.

On July 1 the strength of the Veterinary Corps was 158 officers. Under this law 32 officers must be either retired or discharged by December 31, 1922. This will mean that a very large per cent of these 32 officers eliminated will be Class A officers who have fulfilled all requirements of the service satisfactorily. The only reason for their elimination is that the law must be complied with, and the fact that such officers will be eliminated can not be considered a reflection on their professional or moral standing.

Statistics show that 4.5 veterinary officers are required for each 1,000 animals in the Army. This figure covers all overhead, including the purchasing of animals, the inspection of forage, the inspection of meat and meat food products at procurement points and reinspection in storage and at points of issue, the detail of instructors at various service schools for the purpose of instructing in animal management and horseshoeing, providing administrative officers and the hospitalization and treatment of authorized private and public animals at stations and in the field. The present animal strength is approximately 50,000, which is less than was maintained at any time during ten years prior to the war. Based on the above per centum, 225 veterinary officers are required to maintain an efficient service.

The National Defense Act as amended June 4, 1920, provided for an Army which required approximately 350 veterinary officers. At that time, in view of the possible motorization of various units, it was not considered economical or to the best interests of the country for Congress to authorize a permanent Veterinary Corps of this size, but 50 per cent of this number as permanent appointees was provided for with the expectation that the remainder would be assigned to active duty from the Reserve Corps as required. Unfortunately, in framing the appropriation for the Reserve Corps no provision was made for the assignment of reserve officers to active duty other than for a period of not more than 15 days during a year, which permitted the use of these officers in the Veterinary Service for training purposes only. The appropriation for training was so small that practically no officers were given this training.

The present act cuts the Veterinary Corps as provided for in the Act of June 4, 1920, from 175 to 126 officers. This cut was made

without considering that the animal population will probably remain the same as it was during the past fiscal year which means that the 126 veterinary officers will be required to perform the duties of approximately 175 officers or more. In order that the Veterinary Corps, Regular Army, may be given an opportunity to develop and demonstrate the economy of an efficient Veterinary Service in the Army, a return to the number authorized in the Act of June 4, 1920, is essential, namely, a minimum of 175 veterinary officers, with provision to employ reserve officers, with their consent, in addition, during the summer training period, in such numbers as are required for an efficient service.

Congress has also enacted a law to readjust the pay and allowances of the commissioned and enlisted personnel of the Army, Navy, Marine Corps, Coast Guard, Coast and Geodetic Survey and Public Health Service. A brief synopsis of its effect on the pay of officers of the Veterinary Corps is given below, the monthly pay shown being that which an officer receives on promotion to the grade.

		Rental		Subsistence	
Grade	Monthly Pay	With dependents	No dependents	With dependents	No dependents
Colonel, 26 years' service	$466.66	$120	$80	$36	$18
Lieut. Colonel, 20 years' service	379.16	120	80	54	18
Major, 14 years' service	300.00	100	60	54	18
Captain, 7 years' service	220.00	80	60	36	18
1st Lieutenant, 3 years' service	175.00	60	40	36	18
2d Lieutenant, less than 5 years' service	125.00	40	40	18	18

The rental allowances are applicable only where an officer is on detached service and is not furnished quarters by the Government.

The column "With Dependents" applies to an officer married or a widower having children under 21 years of age or an officer having a dependent mother.

The column "No Dependents" applies to a bachelor officer not having a dependent mother.

Our committee has also done all that was possible to get favorable action on the bill providing for reclassification of civil-service employees in the Federal service, which is still pending in Congress.

S. J. WALKLEY, *Secretary.*
J. G. FERNEYHOUGH.

On motion of Dr. Marsteller, seconded, the report was received.

NATIONAL RESEARCH COUNCIL

DR. HOSKINS: When the report regarding the National Research Council was disposed of there was no provision made either for the continuance or the discontinuance of the committee. In view of that fact, and also the importance of the work of that committee, I move, so there will be no misunderstanding, that the committee be continued.

(The motion was seconded and carried.)

Adjournment.

OTHER MEETINGS

NORTH CENTRAL OHIO VETERINARY ASSOCIATION

Dr. H. B. Ropp of Ashland, Ohio, was elected President of the newly organized North Central Ohio Veterinary Medical Association, at its first meeting at Ashland on July 27. Dr. W. F. Wise of Medina was elected Vice President, Dr. C. C. Wadsworth of Mansfield was chosen Secretary, and Dr. M. C. McClain of Jeromeville, Treasurer.

After considerable discussion as to the number of meetings the organization would have during the year, it was finally decided to leave it to the Executive Committee to fix all dates of future meetings. After the business meeting, with the election of the above named officers, a clinic was held, after which a dinner was served at one of Ashland's well-known restaurants. Drs. Case, Krieder, Derr, Schafstall, P. Fulstow, H. Fulstow, McClain, Merillat, Wadsworth and Wise took part in the clinic. The evening session was held at the Elks' Home at which time Dr. H. H. Lehman, in charge of the information bureau of Hess & Clark Laboratories, gave a very thorough explanation of avian tuberculosis and its treatment. Dr. G. W. Cliffe, of Upper Sandusky, President of the Ohio State Veterinary Medical Association, delivered the main address of the evening. He denied the charges made by some people that the veterinary association throughout Ohio was a political and price-fixing group, but instead it consisted of groups of scientific men associated for the purpose of mutual discussion of all the intercommunicable, contagious, and infectious diseases that are constantly threatening the livestock industry of the country, as well as the economic welfare of the people of our Commonwealth. Twenty-eight charter members of the association were in attendance.

C. C. WADSWORTH, *Secretary.*

CALIFORNIA STATE VETERINARY MEDICAL ASSOCIATION

The annual meeting of the California State Veterinary Medical Association was held in Los Angeles, June 5 to 7. The program consisted of clinics and papers, all of which were completely rendered.

Monday morning a general clinic on large animals was held under direction of Dr. W. R. Carr, assisted by Drs. G. W. Closson, M. Johnson, C. F. Litton and others, at the hospital of Drs. W. R. Carr, C. A. White and R. M. Leaf. It was full of interesting subjects and created great interest.

The afternoon program was held at Normal Hill Center. Interesting papers were read by Drs. John L. Tyler, C. F. Litton, J. P. Iverson (State Veterinarian) and M. Rosenberger; also Dr. R. J. Bell, whose paper on "Breeding Problems from the Dairyman's Standpoint," was exceptionally well rendered and pointed out the dairyman's side of this most important question, as was the paper by Dr. J. L. Tyler.

The second day's meeting contained such subjects as "The Garbage Hog," by Dr. L. M. Hurt; "Hog Cholera Virus and Its Biologic Characteristics," by Dr. Robert Jay; "Antisera, Aggressins and Prophylaxis," by Dr. J. G. Jackley, and the treat of the meeting in an exhaustive paper by Dr. A. T. Peters of Peoria, Ill., all of which brought out very instructive and interesting discussion.

A banquet for members and ladies was held at the Virginia Hotel, Long Beach, at which Dr. L. M. Powers, M. D., gave a most interesting talk on "The Veterinarian and His Relation to the Public Health."

The morning of the third day was devoted to a small-animal clinic under the direction of Drs. C. A. White and T. H. Agnew, assisted by Drs. F. H. Bescoby, W. A. Boucher and Oscar Kron.

The afternoon program consisted of papers by Dr. W. L. Curtis, "Foxtail Infections in Small Animals," and "Rabies and Its Control," by Dr. J. F. Kenna, both of which—dealing with important questions in California—brought out much useful information.

The election of officers resulted in Dr. John L. Tyler, Huntington Park, being elected President; Dr. Oscar Kron, San Francisco, Vice-President; Dr. J. P. Bushong, Los Angeles, Secretary, and Dr. James Boyd, Milpitas, Treasurer.

San Francisco was selected as the next meeting place for the first Monday in June, 1923. The meeting adjourned with everyone expressing the opinion that this had been the best meeting ever held.

J. P. BUSHONG, *Secretary.*

WEST VIRGINIA VETERINARY MEDICAL ASSOCIATION

The annual meeting of the West Virginia Veterinary Medical Association was held at the Chancellor Hotel, Parkersburg, July 26 and 27, 1922, when a program covering an unusual scope was carried to a large attendance, all officers being present.

New officers elected for the ensuing year were: President, Dr. Ernest Layne, Huntington; Secretary-Treasurer, Dr. J. J. Cranwell, Fairmont.

A fine clinic was held at the hospital of Dr. J. C. Callander.

Dr. Neff, who is in charge of tuberculosis eradication work in West Virginia, was present, and also four of his assistants. Dr. Neff clearly defined his work here and also the cooperation of practitioner and Federal employees which he says we must have for success of both.

The visiting ladies and members were entertained by a banquet and moonlight sail on the beautiful Ohio River.

All voted that this meeting was the best ever held by this association. It was also rumored that a midwinter meeting might be held in Charleston, when our legislative body is in action, to try for new veterinary laws badly needed in our State.

Four new members were taken into our association. A very strong plea was made by the Secretary to the new members, as well as any old members who were not members of the A. V. M. A., to join before the meeting at St. Louis, and all attend in a body. J. J. CRANWELL, *Secretary.*

NEW YORK STATE VETERINARY MEDICIAL SOCIETY

The thirty-second annual meeting of the New York State Veterinary Medical Society was held in the State Armory, Syracuse, N. Y., July 26 to 28. The meeting opened with the largest attendance ever recorded in the history of the Society. Both attendance and interest grew as the meeting progressed.

During the morning session of the first day the time was taken up by the regular order of business. Dr. D. H. Udall, as President of the Society, read a carefully prepared address pointing out the conditions of the veterinary profession in the State and indicating methods by which improvement might

be brought about. This address is worth the careful study and attention of every man in the profession. The Society voted that it, together with the paper by Dr. W. E. Frink on "Organization of Veterinarians in New York State," which was read at the annual dinner held the evening of the first day of the meeting, be presented for publication to the JOURNAL of THE AMERICAN VETERINARY MEDICAL ASSOCIATION. These papers will thus both be available to all who are interested in them. Reports of various committees were read during the morning session. The Board of Censors recommended 43 new members for membership during the different sessions. All those who were recommended were elected. This number marks the largest number of members elected in any one year. Thirty-two, which is the next highest number, were elected at the Brooklyn meeting in 1919.

Major C. H. Jewell had been detailed by the War Department to present the matter of the Veterinary Reserve Corps to the Society. He was given the first place on the afternoon program, and much interest was in evidence in that branch of the service as a result of the talk by Major Jewell and one following at a later time and upon the same subject by Colonel Uline, stationed at Syracuse and in charge of the Medical Division, 98th Division, Organized Reserves.

The Committee on Resolutions was instructed to prepare and the Society passed the following resolution:

Whereas, The medical and dental professions have more than filled their quotas in their respective branches in the Reserve Corps of the U. S. Army;

And whereas, In the Veterinary Reserve Corps there is a considerable deficiency in the number of applicants;

And whereas, The veterinary profession during the recent war showed as much loyalty and sacrifice as other professions;

And whereas, The deficiency in the number of applicants seems to reflect on the patriotism of the profession:

Therefore be it resolved, That the New York State Veterinary Medical Society urge those of its members who are eligible to apply for admission in the Reserve Corps, thereby correcting any wrong impression as to their apparent indifference to this important National Service.

Dr. R. H. Spaulding was to have prepared a paper on "Abortion, Septic Metritis, Pyometra, Cystic Ovaries and Sterility in Cats." Dr. Spaulding has had considerable experience with these conditions, and we hoped to hear the paper. He, however, has just gone into a new location, and being extremely busy in locating a new hospital, was too busy to prepare the

paper. The Society will have the pleasure and instruction of his paper in the future.

Dr. A. E. Merry of Syracuse read an instructive paper on "The Management of a Small-Animal Practice." Several men engaged in practice with small animals discussed the paper, to the interest and benefit of all.

Drs. E. V. Moore and J. L. McAuliff of Cortland have had considerable experience with "Hemorrhagic Septicemia in Cortland County" and Dr. McAuliff read the paper which they had jointly prepared. These two young men constitute a firm of progressive and successful practitioners and are doing much to uphold the highest ideals of the profession. There was much instructive discussion on this paper.

Dr. J. W. Fuller, engaged in work on poultry diseases at the New York State Veterinary College at Cornell University, gave a "Demonstration of the Physical Examination of Poultry," which was very practical and created marked interest. The demonstration was real, for Dr. Fuller used a live bird first to show methods of restraint and examination, then of killing the bird and conducting a postmortem.

The evening session was held at the Hotel Onondaga. The annual dinner was the first feature of this part of the meeting. Dinner service was delayed for a considerable time because the staff had to prepare for about twice as many people as they had been advised would be present. This delay was not minded, for it gave opportunity to converse, and when dinner was served it was splendid and thoroughly enjoyed. Mayor Walrath gave the address of welcome on part of the City of Syracuse. Dr. E. L. Volgenau of Buffalo gave the response for the Society. The principal address was by Dr. W. E. Frink of Batavia on "Organization of Veterinarians in New York State," to which reference has been made. At the meeting last year held at Buffalo a committee composed of Drs. W. Reid Blair, W. E. Frink and D. B. Comstock was appointed to confer with Judge B. A. Pyrke, Commissioner of Farms and Markets of New York State. Through the work of that committee Dr. Frink became more cognizant of the dire need of organization and better representation of the practitioner. His paper, which will soon be printed, is an able exposition of the topic and should be read by all interested in the welfare of the profession. The report of the Committee on Resolutions had been laid over

until this time and was accordingly presented. This report was in sympathy with the dominant idea of the meeting, and the resolutions as adopted are as follows:

RESOLUTIONS RELATIVE TO VETERINARY PRACTICE

Whereas, Leaders of animal husbandry of the State proclaim that the greatest hindrances to the prosperity of animal industry are the losses caused by disease;

And whereas, The livestock owners have come to realize the necessity of having competent veterinary service immediately available when needed to safeguard them against the destructive effects of diseases in their flocks and herds;

And whereas, The accumulation of knowledge in the sciences included in veterinary medicine has made it necessary for those who enter the profession to devote many years to study and to expend much money in securing the required training in the nature of animal diseases and methods for their control;

And whereas, The limited number of animals in a farming community, and the great variety of diseases from which they suffer, require the veterinarian to perform all the work in the locality for the restricted animal population, precluding the possibility of practitioners specializing to any appreciable degree;

And whereas, It has been the practice in recent years of the State and Federal Governments to take over tuberculin testing, free of charge, that the local veterinarians were trained to do as a part of their professional duties;

And whereas, This beginning of state veterinary medicine is discouraging young men from entering the profession, which will soon leave animal owners without veterinarians for the great majority of the diseases for which they need such service;

And whereas, Cattle owners are anxious to have efficient veterinarians and are willing to pay for professional services for which they themselves profit;

And whereas, It is not believed that the agricultural interests desire the services of the practicing veterinarians to be restricted or abolished:

Therefore be it resolved, That the New York State Veterinary Medical Society request the Commissioner of Farms and Markets to assist the animal owners by permitting the local veterinarians to do as much of the livestock sanitary work as possible.

And be it further Resolved, That this Society ask the Commissioner of Farms and Markets to recommend tuberculin testing by accredited practitioners at the expense of the owners, thereby encouraging more efficient veterinary service for the agricultural districts and reducing greatly the expense of such work to the State.

And be it further Resolved, That the Federal Bureau of Animal Industry be requested to cooperate with the Commissioner of Farms and Markets to arrange proper inspection of the tuberculin tests to the end that the cattle owners will be assisted in the elimination of tuberculosis from their herds by the receipt of such indemnities for reacting animals as the State and Federal Governments may be willing to provide.

And be it further Resolved, That this Society pledge to the Department of Farms and Markets and to the Federal Bureau of Animal Industry its honor and loyalty in making and reporting all tuberculin tests and other reportable conditions, and that it will exert its every effort to assist the State and Federal authorities to bring to justice any practitioner of the State who violates the sacred obligation of professional honor in the conduct of his work.

And be it further Resolved, That copies of these resolutions be sent to the Commissioner of Farms and Markets, to the Secretary of Agriculture, to the Chief of the Federal Bureau of Animal Industry, to the veterinary journals of the country and to the agricultural press of New York State.

RESOLUTION ON STATE MEDICINE

Whereas, Interest in control of disease has led to extensive development of local, State and Federal organizations for this purpose, their combined activities falling under the general term "state medicine";

And whereas, Within the past few year the course of applied veterinary medicine has been transformed in its relation to the state;

And whereas, Fear that much of the service of the practitioner might be abolished has contributed to a decreased interest in veterinary science which has led to both public and private loss:

Therefore be it Resolved, That the New York State Veterinary Medical Society, recognizing the wisdom and necessity of conserving both State and private effort in disease control, suggests the desirability of a better understanding to the end that progress be not slackened through apprehension or distrust.

Resolved, That this resolution be transmitted to the A. V. M. A. with a suggestion that the control of disease in animals depends on the services of the private veterinary practitioner, with a further suggestion that the National Association assume a more definite policy in the preservation of this vanishing group, and that it be more adequately represented in the JOURNAL of the Association.

RESOLUTION ON THE SCOPE OF VETERINARY PRACTICE

Whereas, Within the past few years the work of the practitioner of veterinary medicine has undergone a radical change through the demand for herd prevention and control of all forms of disease, and individual emergency cases demanding immediate attention are less frequent;

And whereas, Officials, agricultural representatives and others are sometimes advised that certain incidental phases of this work, such as tuberculin testing, vaccinations, etc., are not desired by the average practitioner because they interfere with his emergency work:

Resolved, That it is the opinion of this Society that such incidental routine forms an important and essential part of the public service of the average practicing veterinarian; that in many cases it constitutes an important and essential source of income; that with few exceptions he is in position to give such service, and that those interested in fostering the extension of veterinary service beyond the immediate areas of large towns should not be deceived by such advice.

The committee appointed to confer with Commissioner Pyrke had accomplished so much in its effort to bring about closer relationship between the practitioner, the Federal Bureau of Animal Industry and the State officials that Dr. W. G. Hollingworth moved that a committee composed of Drs. D. H. Udall, George Knapp and D. B. Comstock be elected to carry on the work. The election of the committee was unanimous. The sentiment of the Society is to carry on this work started by the original committee after another year as a permanent organization with a permanent secretary. The effort to bring about

closer cooperation between all interests is bearing fruit and the good work should be kept up, as it will be with a committee having the personnel of the one elected this year.

The morning session of July 27 carried out the same basic idea of organization as had the previous one. "State Organization for the Control of Disease in Livestock" was given by Dr. T. E. Munce, Director, Pennsylvania Bureau of Animal Industry. Hon. B. A. Pyrke, Commissioner of Farms and Markets for New York State, spoke on the topic "New York State Organization for the Control of Disease in Livestock." H. S. Bigler, President, New York State Holstein-Friesian Association, gave a paper on "The Cattle Industry of New York State; Its Relation to the Administration of Disease Control in Live Stock." "Holstein-Friesian Association Sale Regulation for Protection Against Disease" was the topic of a paper read by E. R. Zimmer, Secretary, Holstein-Friesian Association of New York State. D. W. McLaury, Chief of the Bureau of Animal Industry of New York State, gave an address. The United States Bureau of Animal Industry was ably represented at the meeting by Dr. Lash, a member of the Washington staff. Dr. H. W. Turner, Pennsylvania Bureau of Animal Industry, read a paper on "Tuberculin Technic." Space forbids a discussion of the good points of these papers and of the discussions they called forth. Most of them will appear in the veterinary journals of the country and their value will thus be preserved.

The morning session was a long one, for the business had to be completed before adjournment. Ithaca was decided upon as the place of the next meeting. Dr. W. Reid Blair was elected President, Dr. R. W. Gannett Vice-President, Dr. C. E. Hayden Secretary-Treasurer and Dr. H. J. Milks Librarian.

During the afternoon session Dr. H. W. Turner demonstrated the various tuberculin tests and reaction with twenty cattle. Autopsies were held. Dr. E. T. Faulder was assigned to assist Dr. Turner. With Dr. Faulder were Drs. Derrick, Linch, Bales and Grace. The Society is deeply indebted to Dr. Turner and to the representatives of the Bureau of Animal Industry who did so much to make this part of the program a success.

Clinics were held during the morning of the 28th. Dr. W. L. Williams had a large number of sets of genital organs which had been sent down from Buffalo. These he used for demonstration of the diseases of genital organs. Dr. W. W. Williams

performed an amputation of the cervix. Dr. J. N. Frost did a rumenotomy. The clinics were well attended and of great interest.

The activities of the Society closed with the clinics, but there was a further program in the afternoon for which many of the members stayed over. The Society for the Study of the Diseases of the Genital Organs had a session in the State Armory and there were four very fine papers presented of interest to all engaged in such work.

The thirty-second meeting of the New York State Veterinary Medical Society was a success from the standpoint of program and numbers in attendance. This meeting marks a new era in the history of the Society. C. E. HAYDEN, *Secretary.*

At the last meeting of the Tennessee Veterinary Medical Association, held in Memphis July 27-28, a schedule of uniform charges for testing cattle for tuberculosis was adopted. This action will prevent much confusion and create a better understanding between the practitioner and the accredited herd owner.

The Tennessee Veterinary Medical Association, in session July 27-28 in Memphis, Tennessee, temporarily suspended the by-laws to admit into the association, without the payment of fees, all B. A. I. veterinarians working in the State. Immediately following, this was submitted as an amendment to the by-laws, for action a year hence, to automatically make all B. A. I. men in Tennessee active members of the T. V. M. A.

Cordial relations are being cultivated between the medical and veterinary professions of Great Britain. Following the combined meetings of the Royal Society of Medicine and the Central Branch of the National Veterinary Association last year, the Royal Society has opened its membership to veterinarians, who are admitted on the same terms as physicians. The Sections of Medicine and Pathology have each elected a veterinarian on their respective councils. The National Veterinary Association has joined the Federation of Medical and Allied Services. The British Medical Association has placed a veterinarian on the program of its coming annual congress and veterinarians are invited to attend and to join in the discussion. Such cooperation is sure to benefit both professions.

NECROLOGY

Dr. Wm. J. Waugh, of Washington, Pa., died suddenly of apoplexy while attending a patient at the fair grounds, on August 16, 1922, aged 65 years. He was a native of Pennsylvania, a graduate of the Ontario Veterinary College, class of 1882, and was Regiment Veterinarian of the 3d Cavalry, U. S. A., for 15 years, resigning after the close of the Spanish-American War. He then resumed an active general practice.

He was an expert surgeon and capable practitioner, and acquired a competency. He was a member of the A. V. M. A., Pennsylvania Veterinary Medical Association, Masonic Fraternity, and a town councilman.

He was a brother of Drs. Jas. A. and David Waugh, and had a family of three daughters and three grandchildren. His wife died about two years ago. He was also a member of the Pennsylvania Bureau of Animal Industry. Dr. Waugh was planning to retire and recuperate for a year on the Pacific Coast, but the end came suddenly and closed a useful career.

J. A. W.

Dr. Allen E. Cherry died in Denver, Colo., on March 3, 1922, at the age of 32 years. He was born in Russia but came to this country in 1905, graduating from the Veterinary Division of Michigan Agricultural College in 1915. He joined the A. V. M. A. the following year and was a first lieutenant in the World War. At the time of his death he was in the service of the B. A. I., stationed at Denver.

HORSEHAIR FOR HYPODERMIC NEEDLES

Dr. Benjamin A. Daniels, a physician of Tampa, Fla., writes to the *Journal of the American Medical Association* that he has found horsehair (suture clippings) to be more effective than either brass or steel wire for keeping open the lumen of all kinds of hypodermic needles. As they are black, they are readily seen and picked up when wanted for reinsertion into the needles. They never rust, seldom break, and may be sterilized inside and along with the needles.

MISCELLANEOUS

A SUSPICIOUS DISEASE IN JAMAICA

The *Jamaica Gazette* of July 29, 1922, published the report of G. O. Rushie Grey, Veterinary Consultant, Agricultural Department, to the Colonial Secretary, on his investigation of a disease which has recently appeared among cattle in the neighborhood of Montpelier, in the parish of St. James, and later in Westmoreland and Hanover, Jamaica. In his report Dr. Grey states:

> At first it was thought to be foot-and-mouth disease, and the Department of Agriculture was requested to send the Veterinary Consultant to investigate and report.
>
> In accordance with instructions I therefore visited Montpelier on the 18th instant, and readily diagnosed the disease as "necrotic stomatitis and coronitis," that is, inflammation of the mouth and coronary region accompanied by necrosis or death of limited areas of tissue of the affected parts.
>
> In almost every case the first symptom observed is strings of saliva hanging from the mouth, which is usual in practically all inflammatory conditions of the mouth. Later, salivation becomes more profuse; eyes sunken; gradual or sudden loss of condition; tenderness, or even marked lameness of the feet; separation of the horn and skin at the coronary region with bleeding in some cases; sores between the claws; extremities swollen. There may be also sores on the udder. Affected animals cease feeding, stand in one place or lie down, and when they move do so with difficulty. The animals are very "tucked up." Those that do not succumb to the disease begin to show signs of improvement after four or five days.
>
> The preceding is a comprehensive survey of the development of symptoms; some of the symptoms may be very slight, or even absent; but salivation is the constant symptom.
>
> If the mouth is examined in the early stage, little may be seen; later, small patches of the covering membrane of the tongue or gums appear brown here and there; then the membrane comes off in small patches, or over large areas, exposing a reddened but healing surface below. In some cases the separation of the hoof is so extensive that the animal is unable to stand, and if moved about the hoof is liable to be shed.

The report does not show that any inoculation tests were made in diagnosing this outbreak of disease, which from the symptoms described so closely resembles foot-and-mouth disease after the vesicles have ruptured; neither does it show whether any other species of animals are affected. On account of the similarity of the symptoms to foot-and-mouth disease, the Bureau of Animal Industry has issued instructions discontinuing the importation of hides from Jamaica until further orders. Under existing law and regulations it has not been permissible to import cattle from Jamaica since 1890.

HORSE RAISING DECLINES BUT QUALITY IMPROVES

If comparative figures from 14 of the leading horse-producing States can be taken as showing the tendency in all parts of the country, there has been a decrease since 1915 of about 60 per cent in the number of stallions in service in the United States. Grades, cross-breds, and scrubs have been falling behind at a greater rate than the purebreds, the latter decreasing a little less than 50 per cent. These statements are based upon a report, Stallion Enrollment as Related to the Horse-Breeding Situation, just compiled by the United States Department of Agriculture from reports from 18 of the 24 States having stallion-enrollment laws.

There has been a decrease in the total number of stallions and jacks every year since 1915, but the rate of decline slackened somewhat in 1921. Fourteen States having an enrollment of 46,121 stallions in 1915, had only 18,092 in 1921, a decrease of 60.8 per cent. Of the stallions in 18 States in 1921, 74.2 per cent were purebred. In 1915, only 60 per cent were registered sires. As the numbers decrease the quality improves. Farmers are finding that it pays to raise only good horses and mules.

The number of stallions of the light breeds has been decreasing more rapidly than the number of draft stallions. The total of jacks has been increasing gradually until the last year, when there was a slight decrease. There has been a striking increase in the actual number of purebreds. The change in the ratio of jacks to stallions is a fairly accurate measure of the popularity of the mule. Twenty-nine per cent of the total number of stallions and jacks enrolled for public service in 15 States in 1921 were jacks, while in 10 States in 1915 only 9.3 per cent were jacks.

Several States have recently enacted enrollment legislation that should lead to further improvement of breeding stock and the general run of work stock. Pennsylvania and Indiana now permit the use of only purebred stallions and jacks for public service. They also disqualify stallions and jacks that are unsound or of such inferior type or conformation that they may prove a detriment to the horse-breeding interests of these States. Michigan also has passed a similar law that will become operative January 1, 1923.

ST. LOUIS SAYINGS

Among those who motored to St. Louis were Captain and Mrs. R. A. Kelser, Miss Davidson and Evelyn Ray Kelser of Washington, D. C. They covered 1,982 miles on the round trip.

The jovial countenance of Col. C. J. Marshall was missed by his many friends at the convention.

Dr. George H. Hart of California, Dr. Thomas Simms of Oregon and Dr. E. E. Wegner of Washington made the longest journeys of any from the States, but the prizes for real distances should go to Dr. Chas. V. Noback of Colombia, Dr. G. A. Roberts of Brazil and Dr. S. Youngberg of the Philippines.

Dr. and Mrs. Adolph Eichhorn returned from their three-month trip through the various European countries just in time to make connections for the St. Louis meeting. Dr. Eichhorn's vivid descriptions of the professional, social and agricultural conditions noted during his travels were deeply appreciated by all those who had the pleasure of hearing them.

The oculists of St. Louis reported a thriving business on the day following the cabaret entertainment at the Planters Hotel.

Dr. L. A. Merillat's new method of restraint as applied to fillies was to say the least quite unique.

Miss Evelyn Ray Kelser had the distinction of being the youngest dancer at the President's reception on Monday night.

The many friends of Dr. George Hilton, Chairman of the Executive Board, deeply regretted that he was unable to be present on account of protracted illness. The JOURNAL extends him all good wishes for a speedy convalescence.

"Sheriff" Jeffries was unable to make any "arrests" during the convention, although he was observed to be keeping close watch on one of his fellow townsmen.

Drs. E. A. Watson and A. E. Cameron of the Canadian Health

of Animals Branch visited Washington, D. C., on their way back from St. Louis. Dr. Cameron will remain in that city for several months studying the various methods of research employed in the different government laboratories.

Dr. and Mrs. Hamlet Moore of New Orleans, La., started on a trip to the Hawaiian Islands immediately after the St. Louis meeting and will be gone several months.

Dr. C. C. Wang, a graduate of Ames in the class of 1922, was a recent visitor at the Capital, where he spent some time acquainting himself with the work of the B. A. I. before returning to China. Incidentally it is stated that Dr. Wang is the first Chinese graduate veterinarian.

The late Prince Albert of Monaco, who was widely known for his interest and achievements in science as well as for being the ruler of the little principality comprising Monte Carlo, bequeathed to the French Academy of Medicine, of which he was a member, the sum of one million francs, and a like sum to the Academy of Sciences.

MILK LESSONS FROM AMERICA

Dr. Robertson, Medical Officer for Birmingham, England, has been in the United States, in company with Mr. E. W. Langford and Mr. Gurden, representatives of the retail milk distributors of Birmingham, to investigate American methods of supplying milk. He hopes that the American practice of retailing milk in bottles will be introduced in his country. American milk is richer and cleaner than in England, and is pasteurized and cooled. He thinks the cooperative system is well developed in the States, making for economical and speedy marketing, and having also the advantage of central cooling stations. Dr. Robertson advocates the recording of milk yields of individual cows, testing for fat, and the elimination of inferior animals. He points out that American farmers receive a basic price for milk containing 3.5 per cent of fat, and a higher price for a superior grade. The minimum percentage of fat allowable in milk in England is 3 per cent.